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EDITED BY
FRANK P. FOSTER, M.D.

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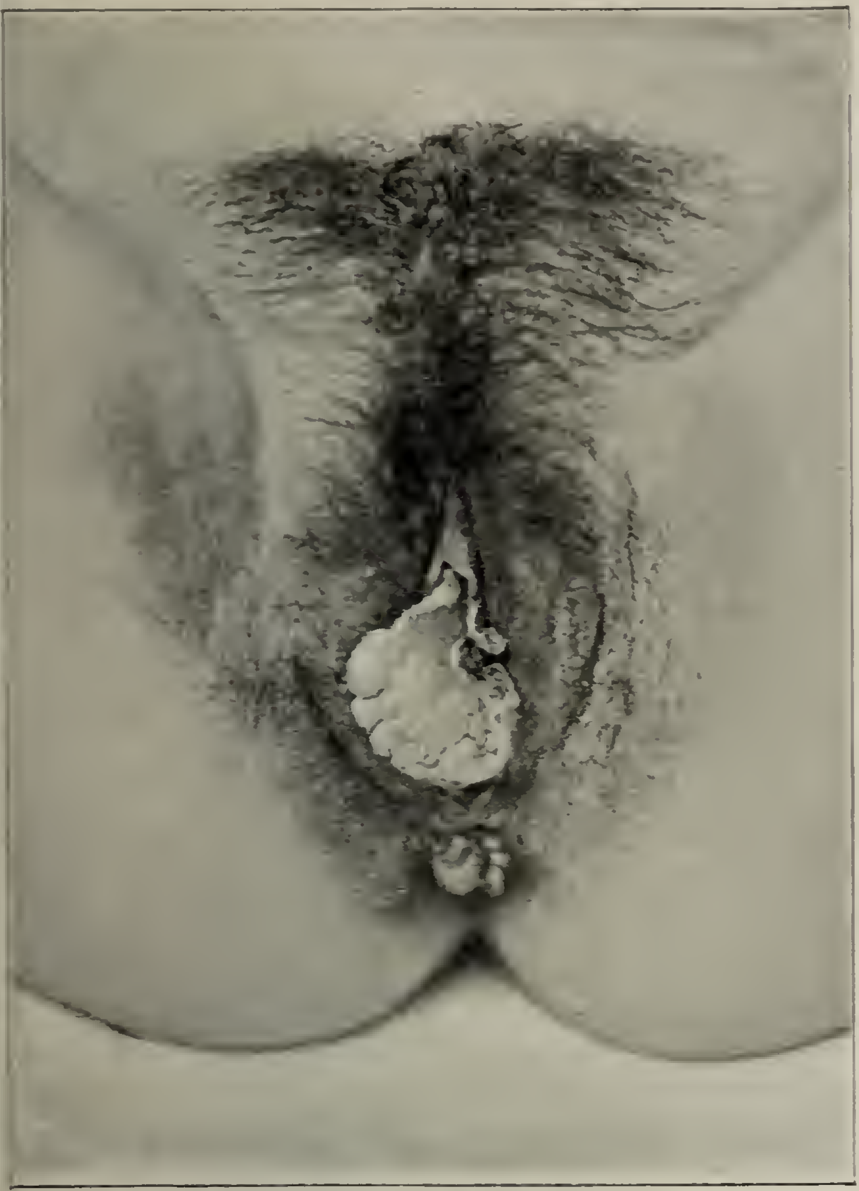

Fig. 1.—Showing hypertrophy of the right nympha and perinæum.

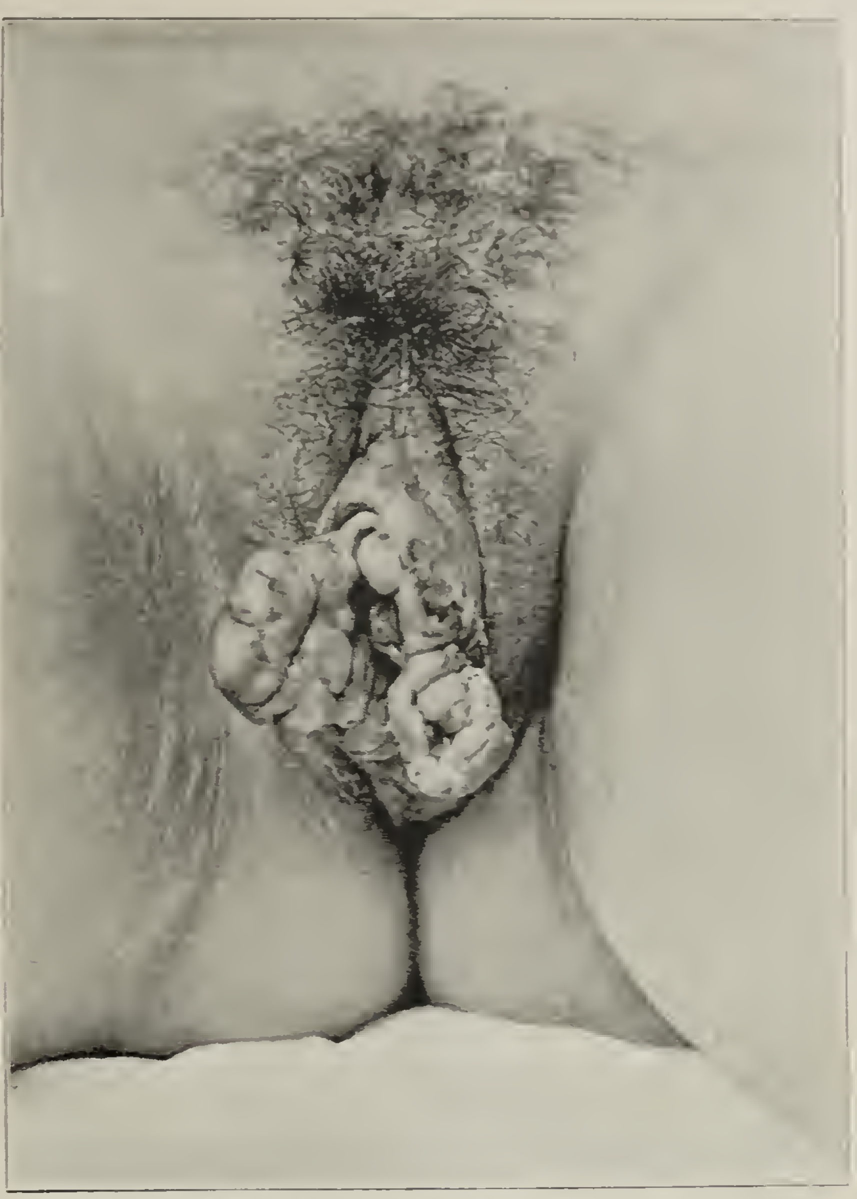

Fig. 2.—Showing hypertrophy of the nymphæ and clitoris.

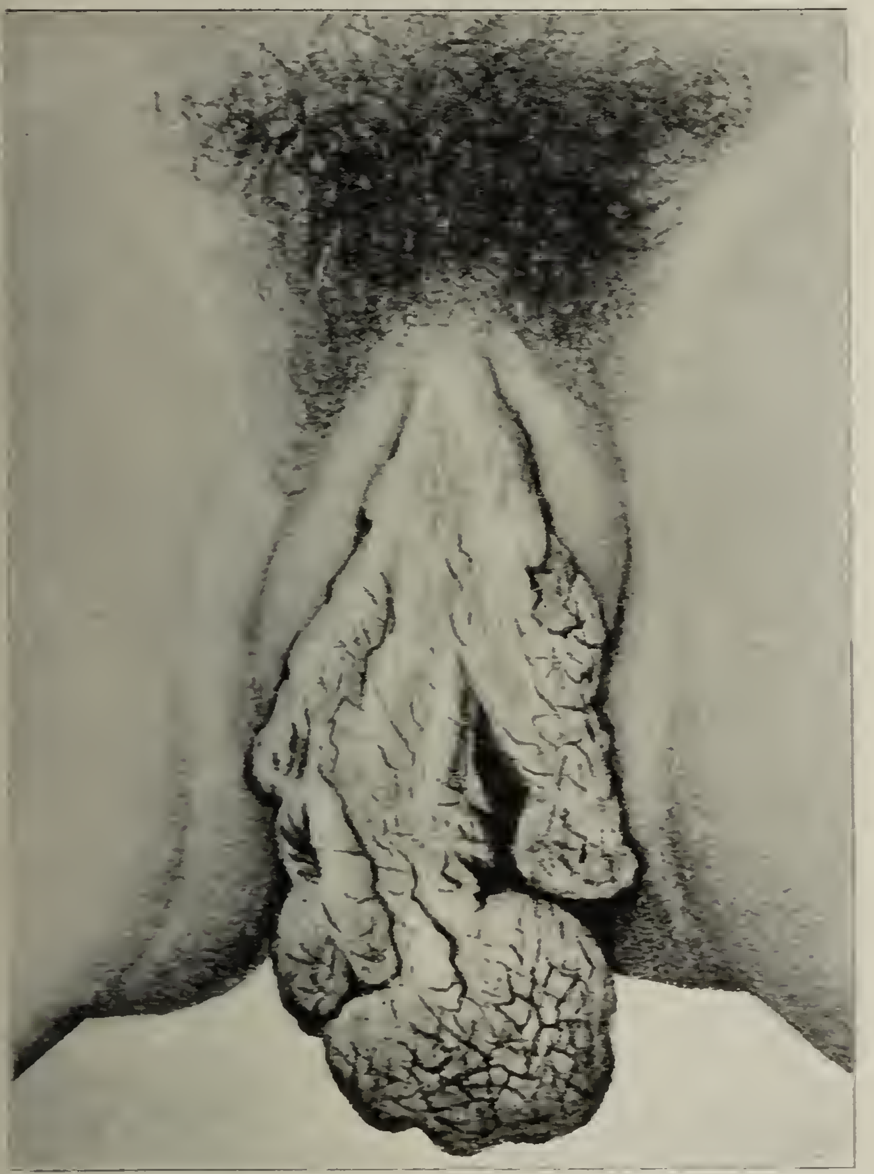

Fig. 3.—Showing enormous hypertrophy of the clitoris.

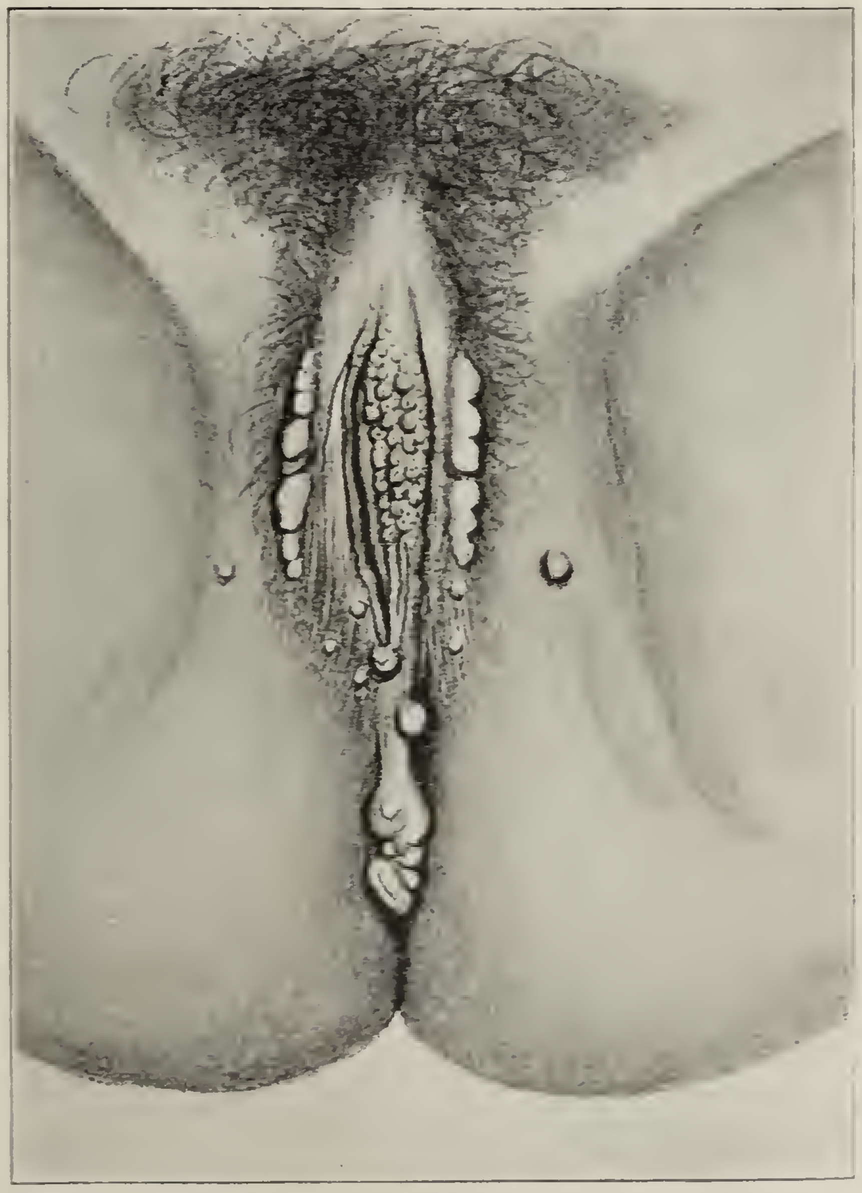

Fig. 4.—Showing simple vegetations in process of change to fleshy tabs and hypertrophic masses.

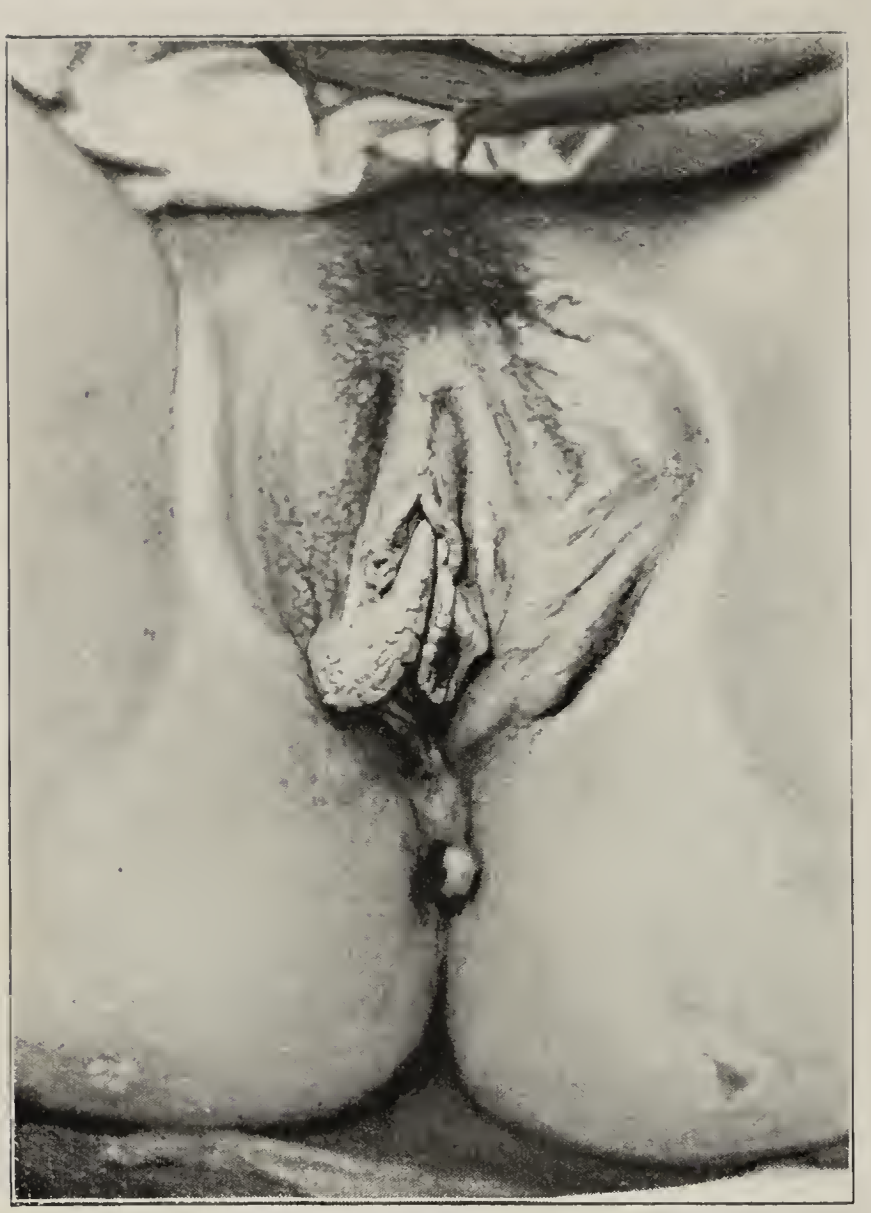

Fig. 5.—Showing hyperplasia of the nymphæ from chronic chancroids.

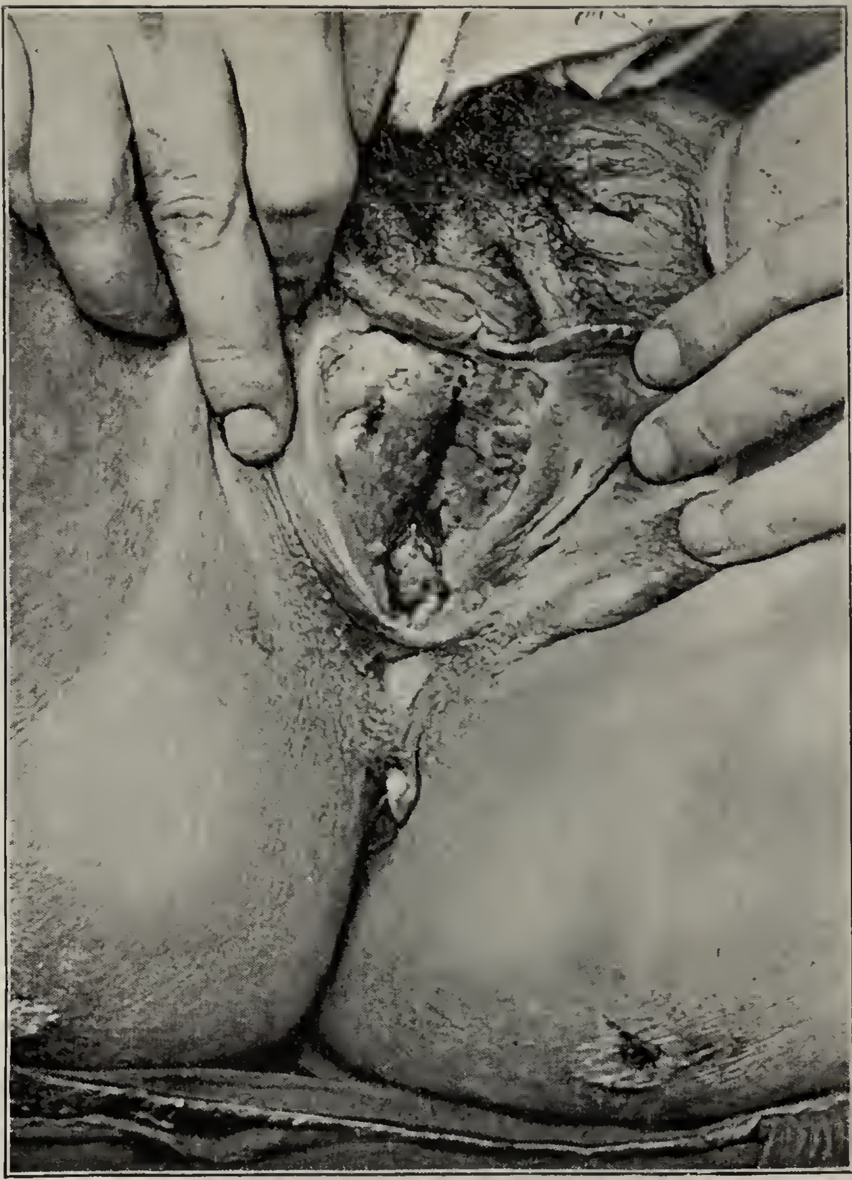

Fig. 6.—Showing chancroids of inner part of vulva, with much hyperplasia of vulvo-anal region.

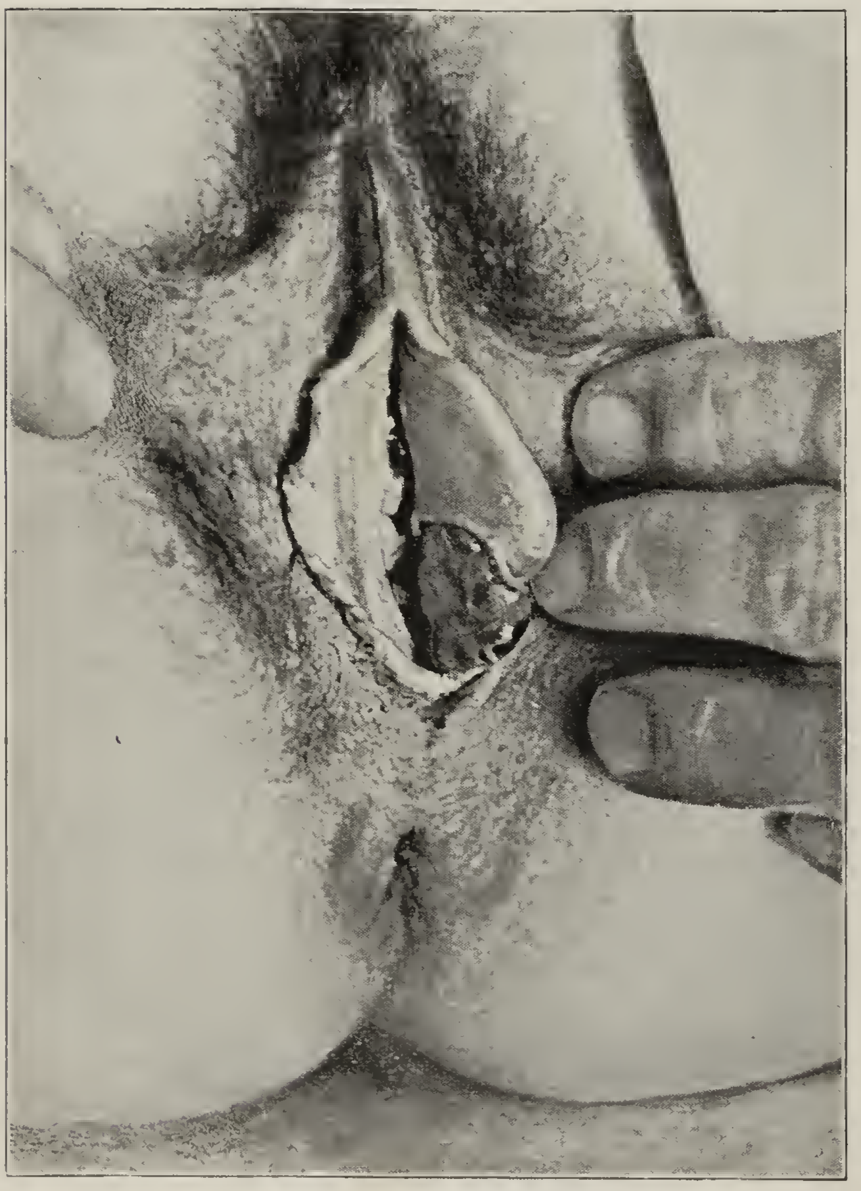

Fig. 7.—Showing chronic chancroid of left nympha, with hyperplasia of the parts.

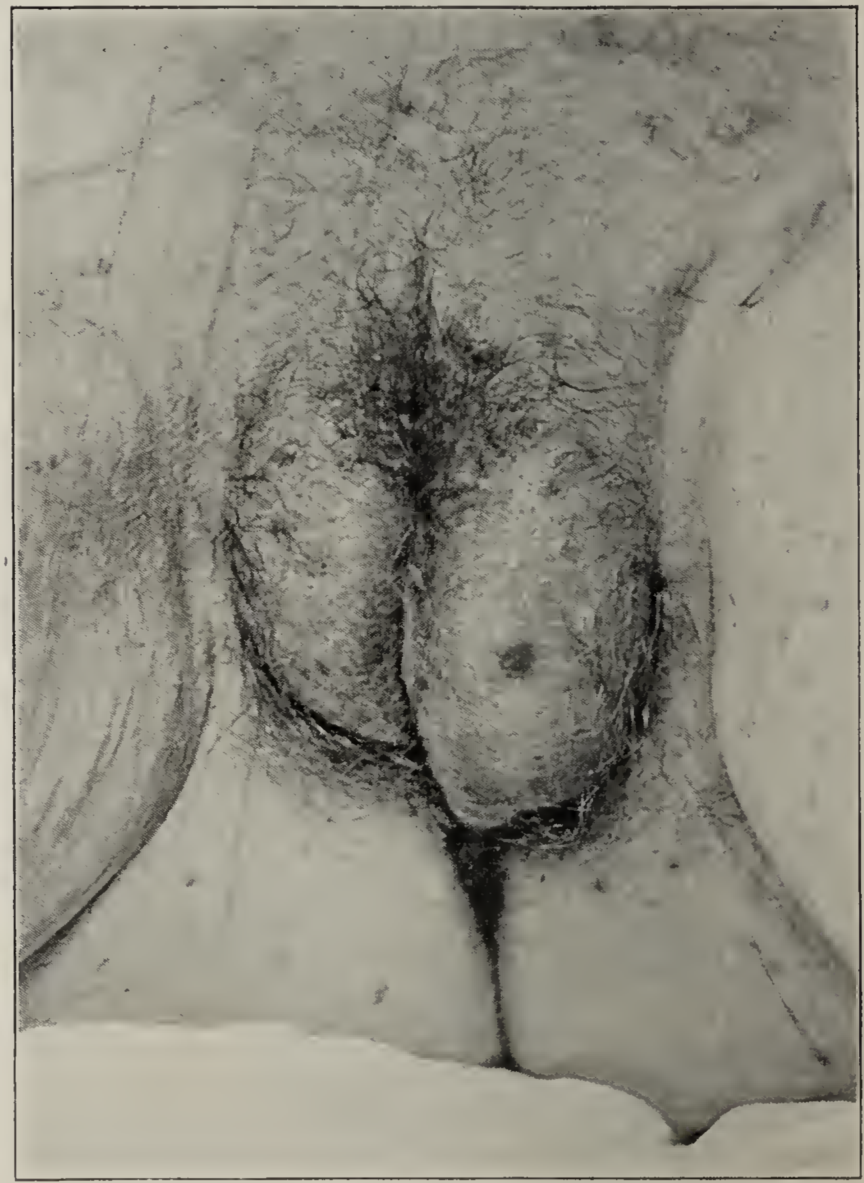

Fig. 8.—Showing indurating œdema of left labium majus in early syphilis.

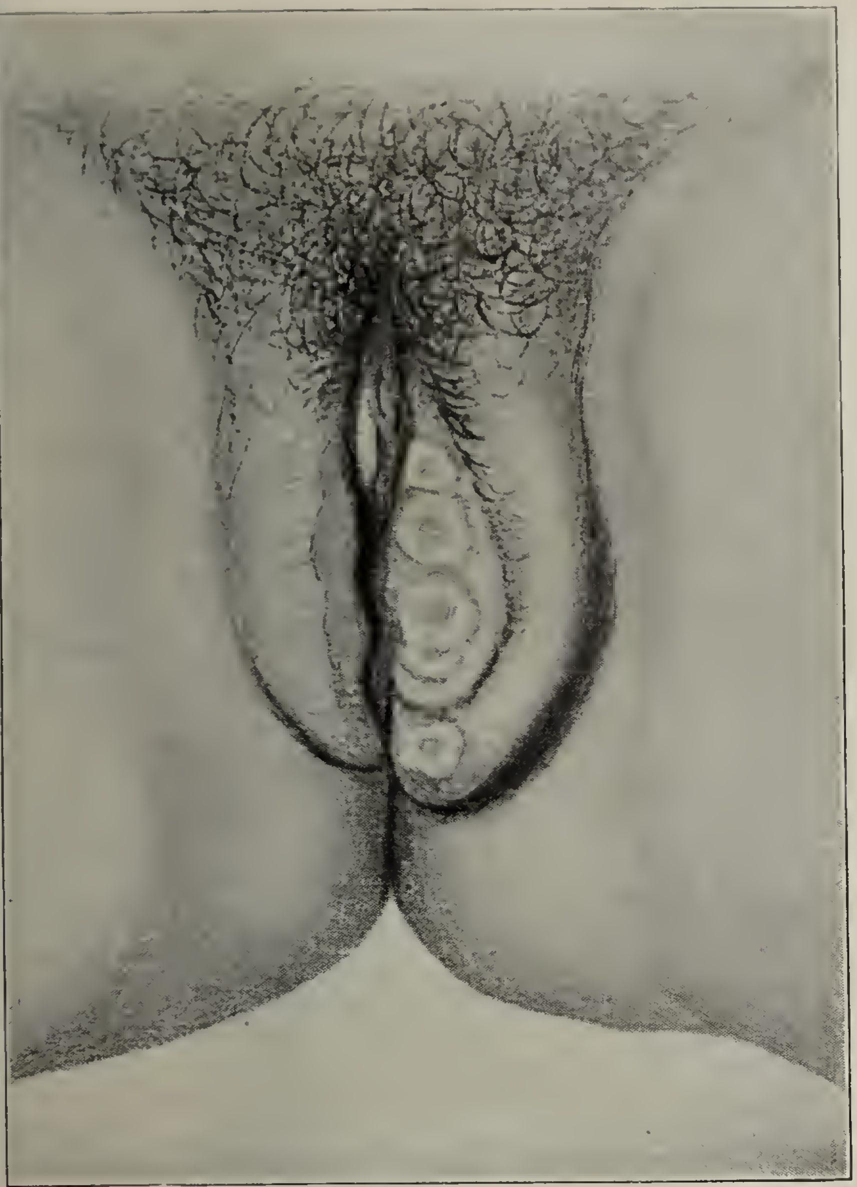

Fig. 9.—Showing indurating œdema of the left labium majus and minus complicating condylomata lata.

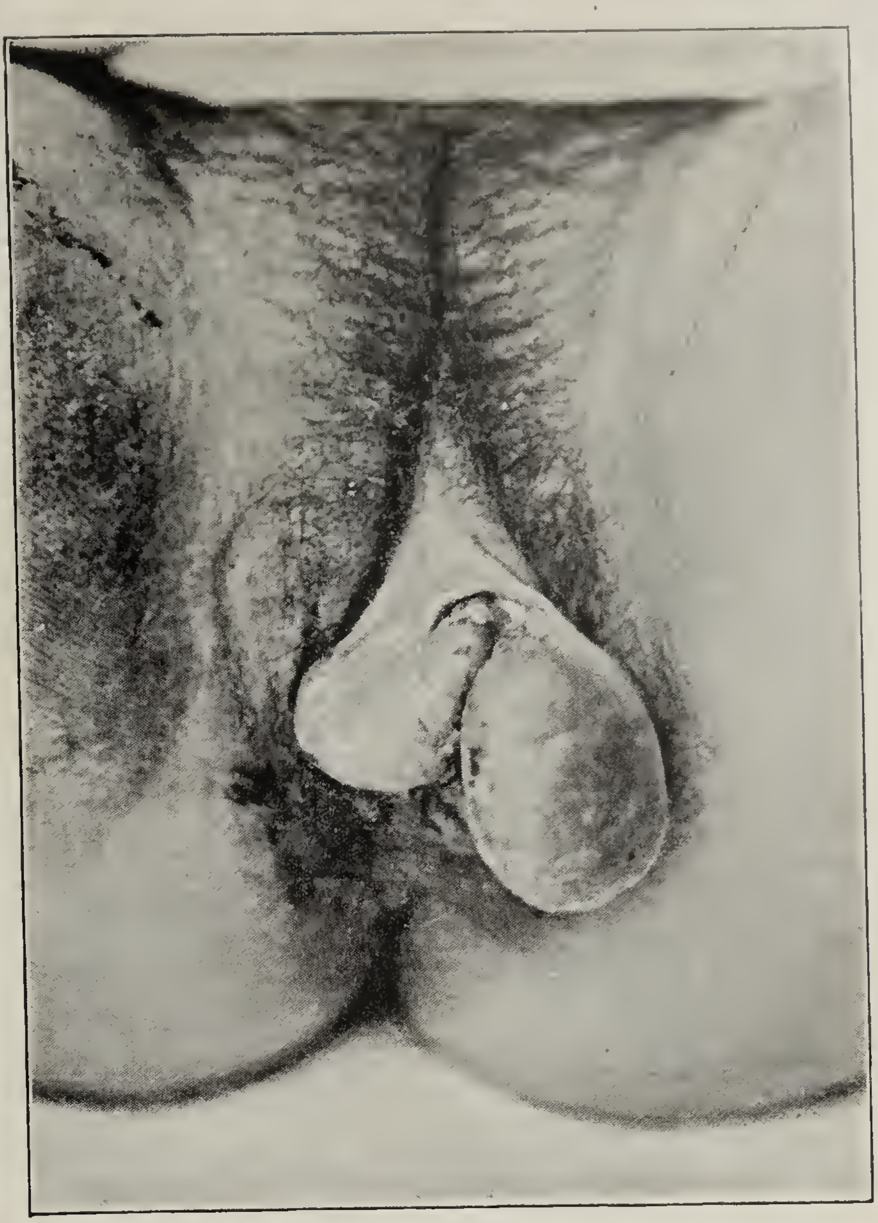

Fig. 10.—Showing indurating œdema of both nymphæ in late syphilis.

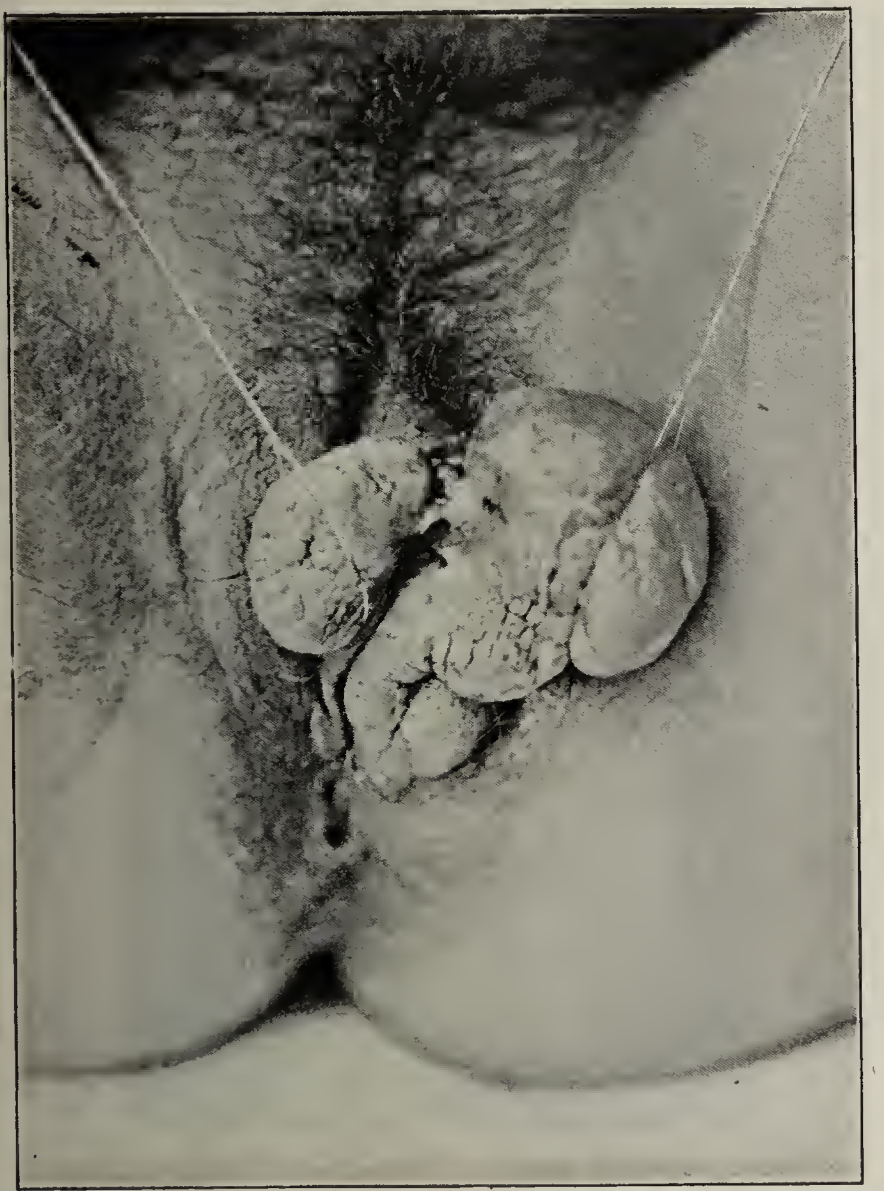

Fig. 11.—Showing an inner view of the nymphæ depicted in Fig. 10.

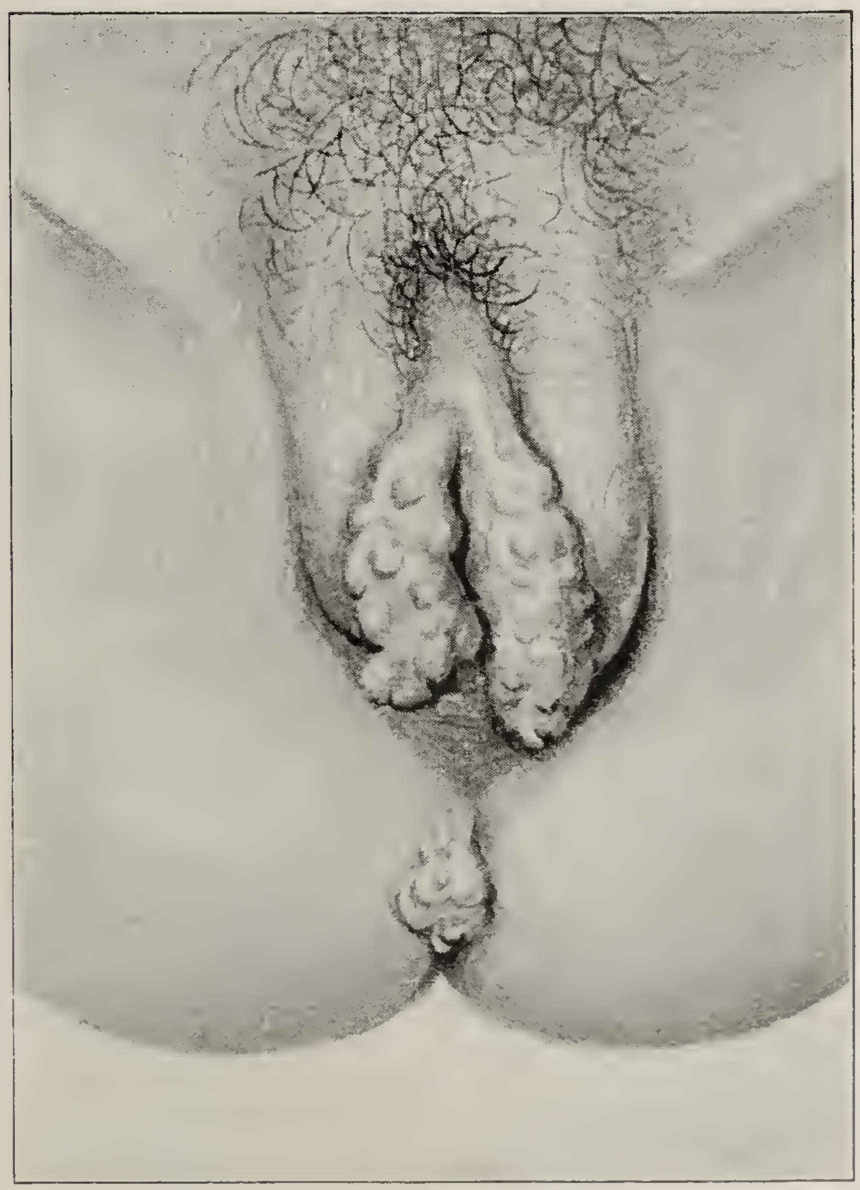

Fig. 12.—Showing great hyperplasia of the clitoris and nymphæ. Sequel to Fig. 8.

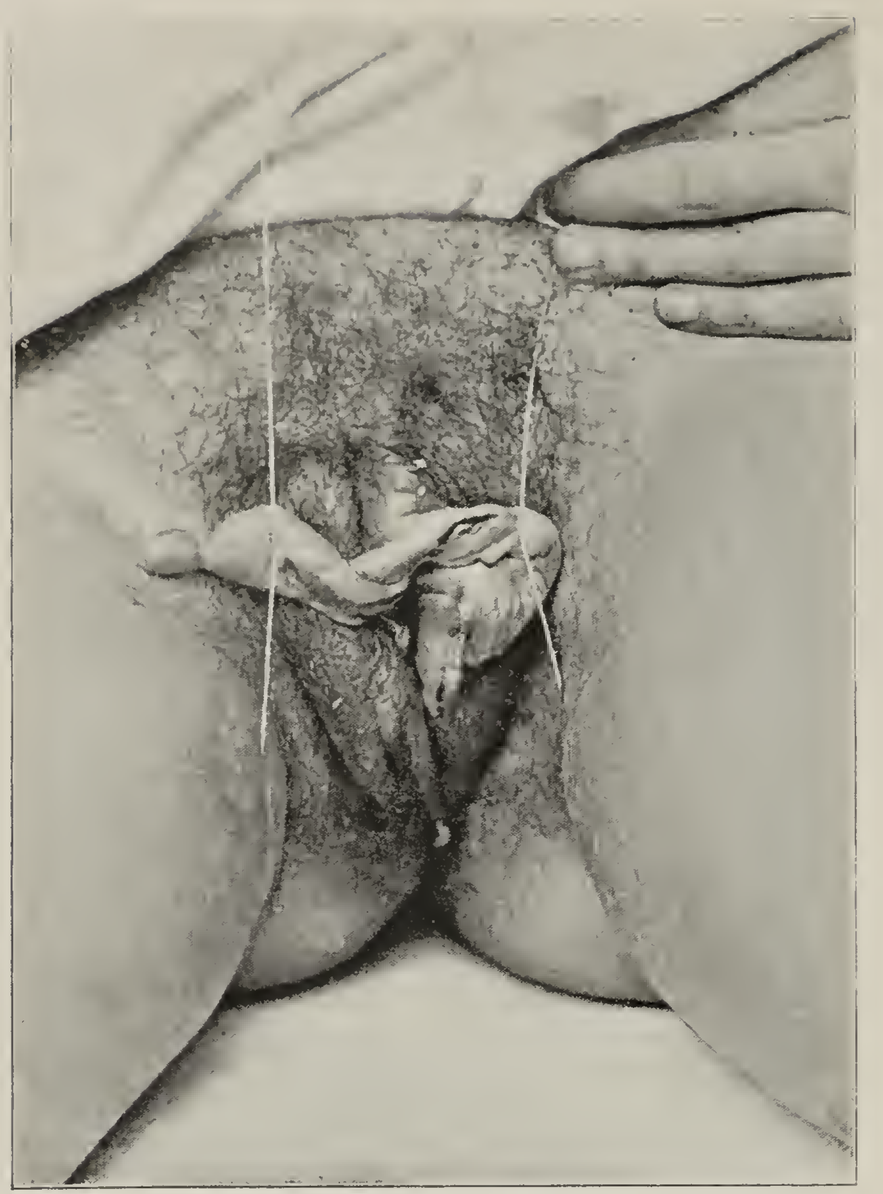

FIG. 13.—Showing hyperplasia of external genitals in an old syphilitic.

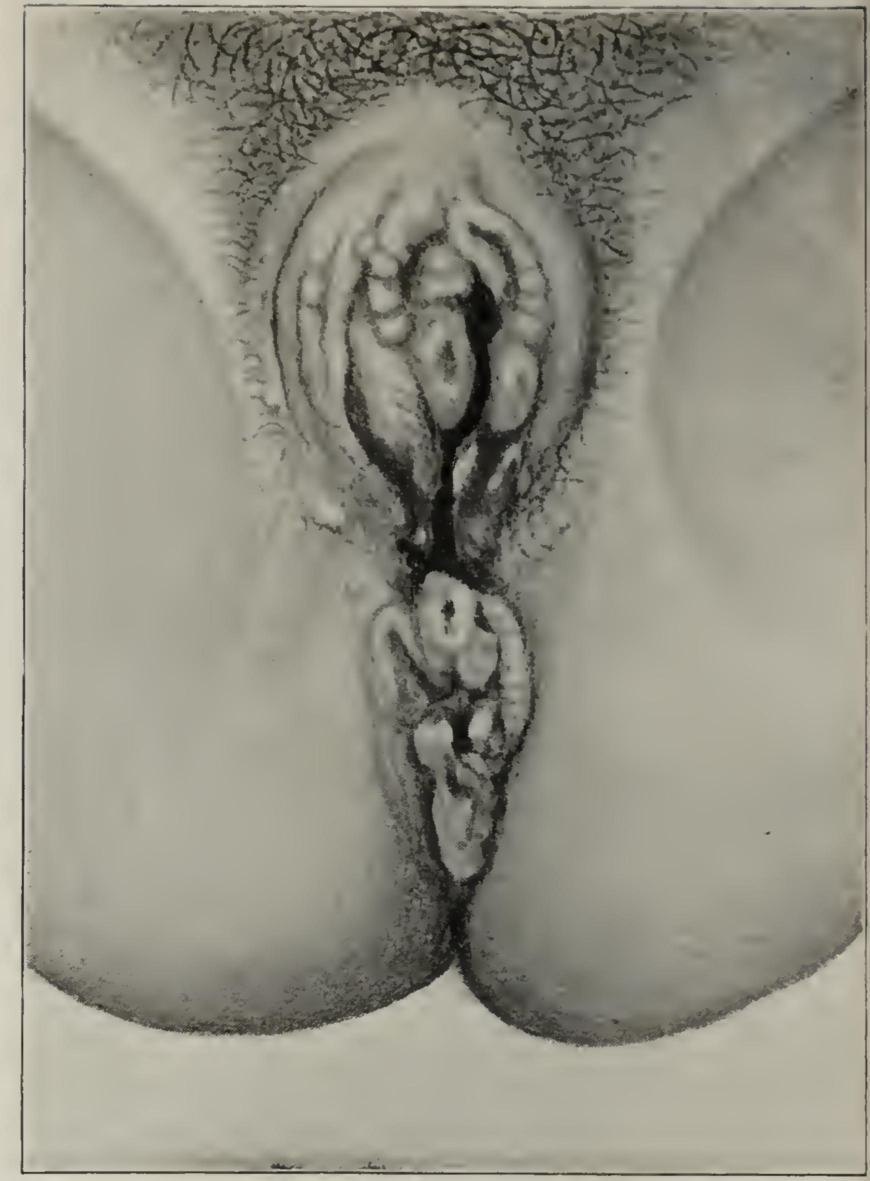

FIG. 14.—Showing hyperplasia of vulva and perinæum, and destructive ulceration, in an old syphilitic.

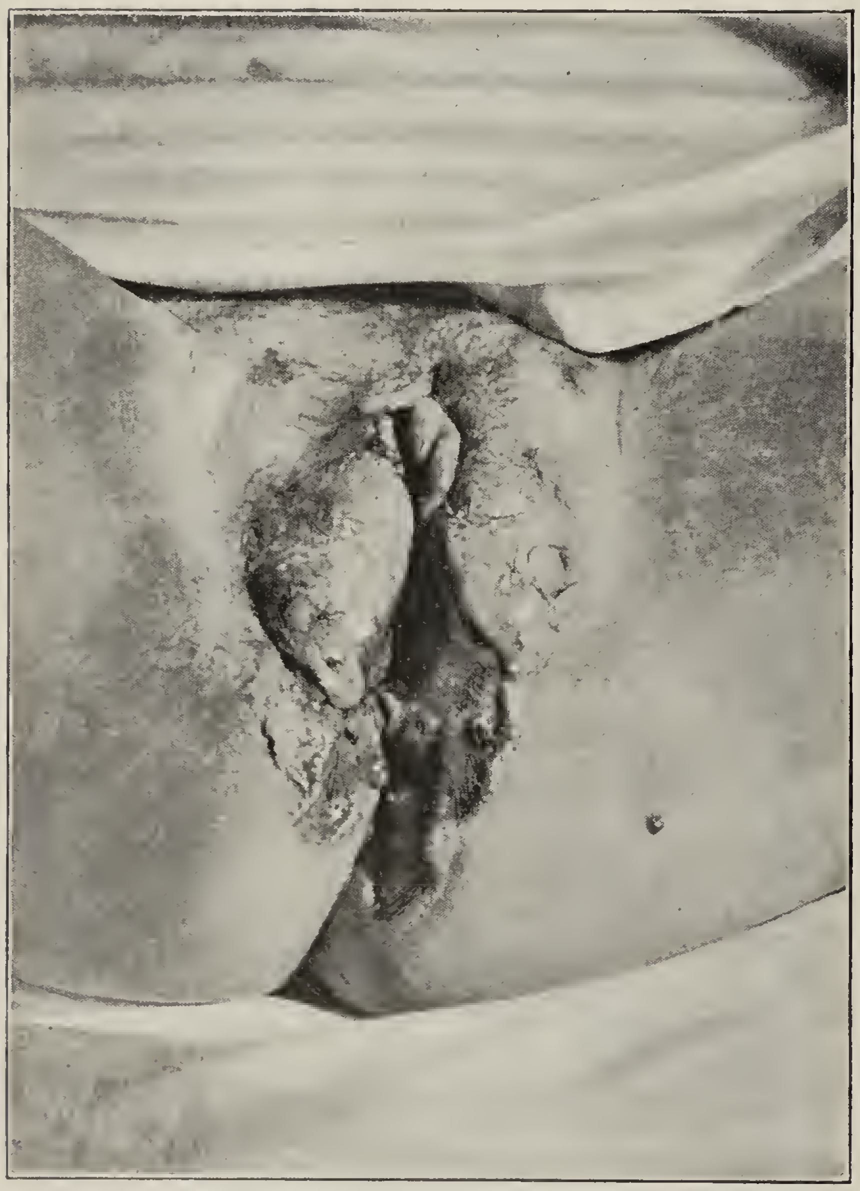

FIG. 15.—Showing great destruction of hypertrophied vulva and perinæum in an old syphilitic.

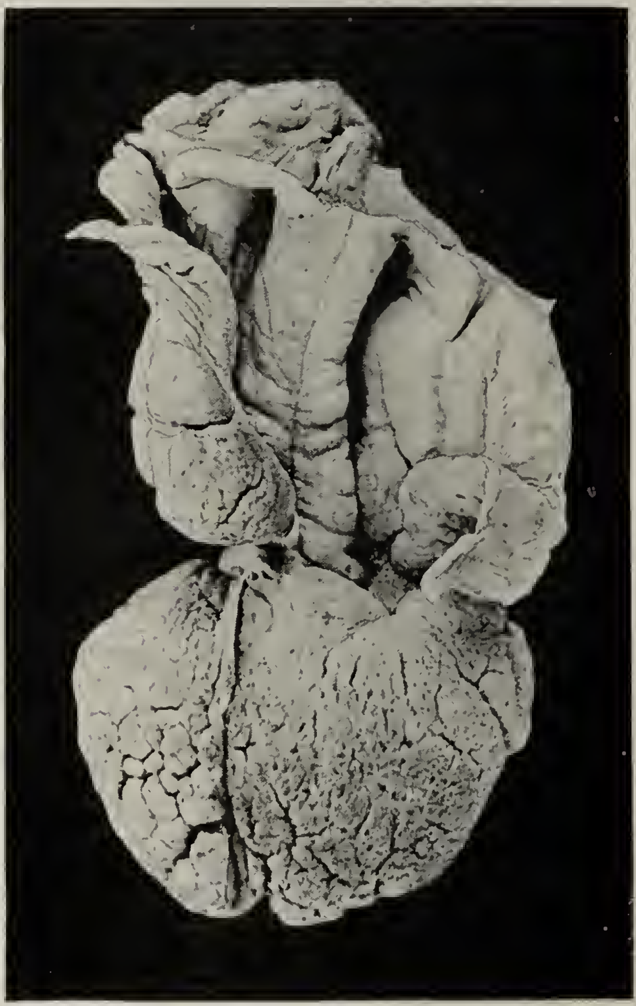

FIG. 16.—Showing great hypertrophy of the clitoris in an old syphilitic; posterior view.

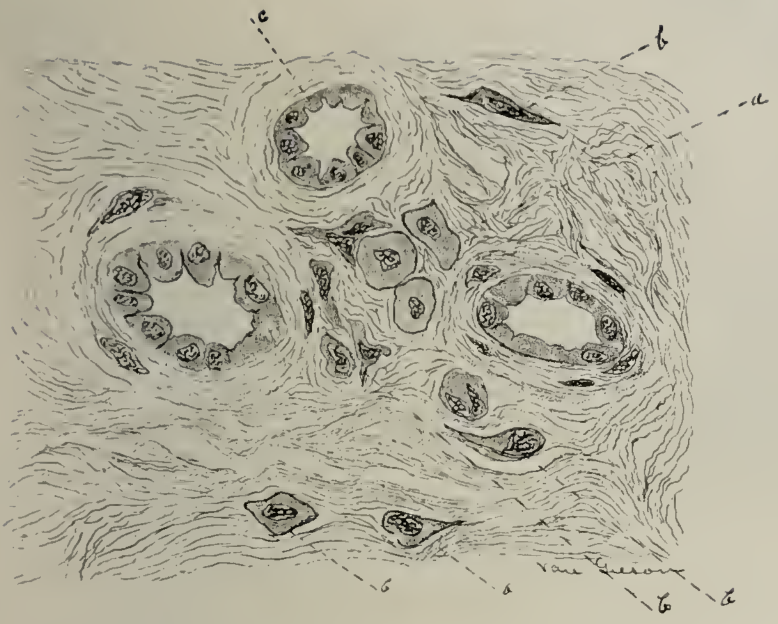

Fig. 17.—(Zeiss oil immersion, $\frac{1}{12}$; ocular, 4; tube length, 160 mm.) From Case I. Three small blood-vessels with swollen and granular endothelial cells projecting into the lumen. *a*, plasma cells. *b*, swollen or proliferating fixed connective-tissue cells.

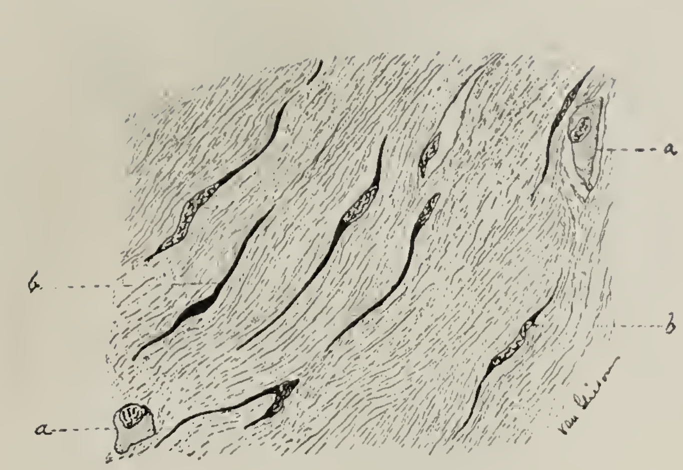

Fig. 18.—Section from the fourchette of the normal vulva, showing the normal fixed connective-tissue cells, *b*. *a*, plasma cells. (Drawn with same lenses as used in Fig. 17.)

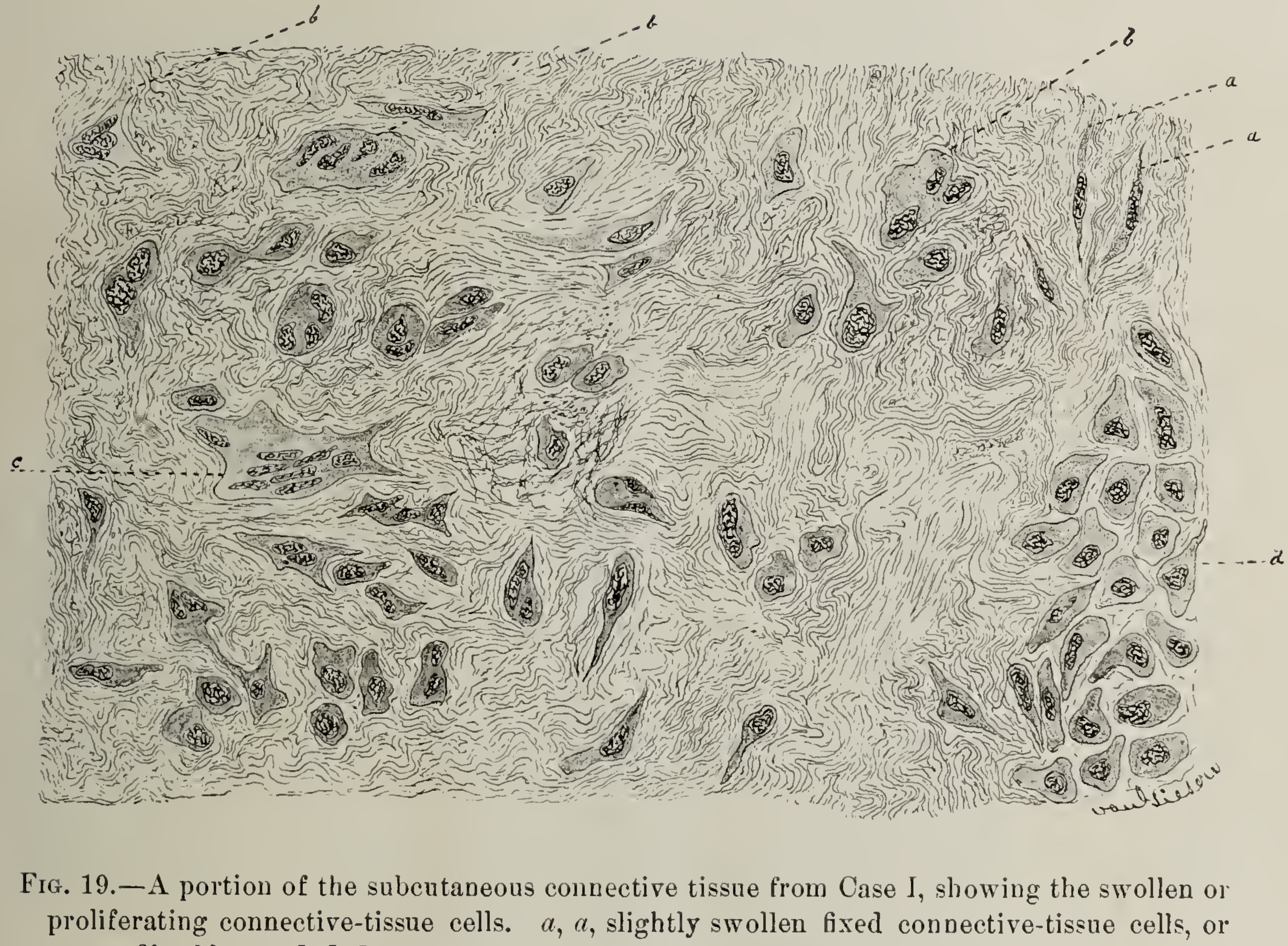

Fig. 19.—A portion of the subcutaneous connective tissue from Case I, showing the swollen or proliferating connective-tissue cells. *a*, *a*, slightly swollen fixed connective-tissue cells, or young fibroblasts. *b*, *b*, *b*, stages in the development of a giant cell, *c*, from the proliferating connective-tissue cells. *d*, group of small polygonal cells, apparently derived from the connective-tissue cells. Among the cells in this drawing are some young fibroblasts. (Same lenses used as for Fig. 17.)

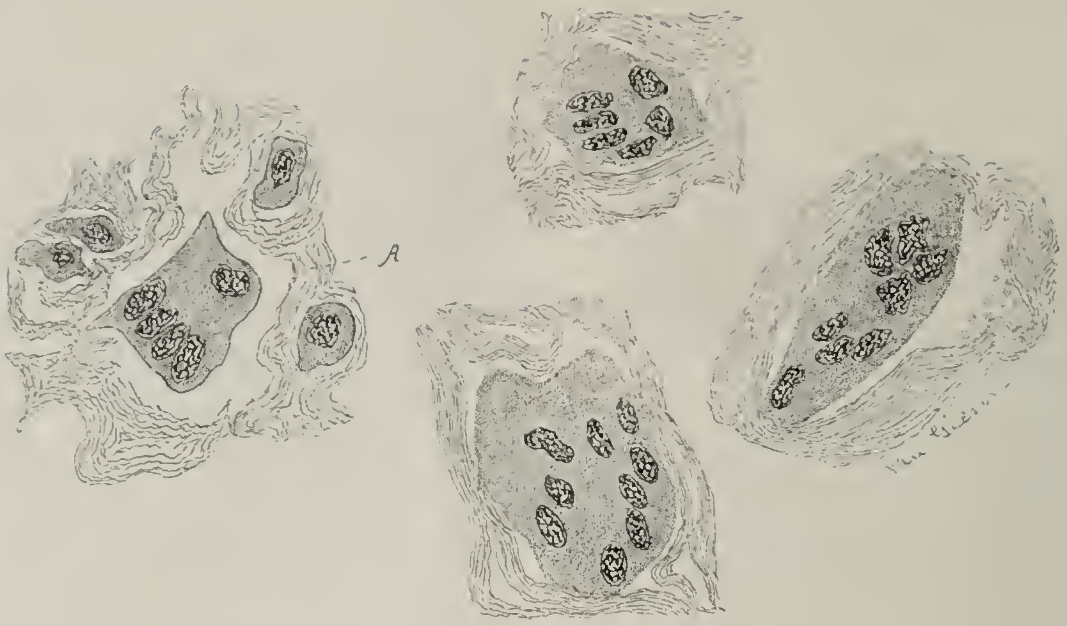

Fig. 20.—Showing the occurrence of giant cells in the interfibrillary spaces of the derma. *A*, from Case I. The other three giant cells are from Case II. Magnified as in Case I.

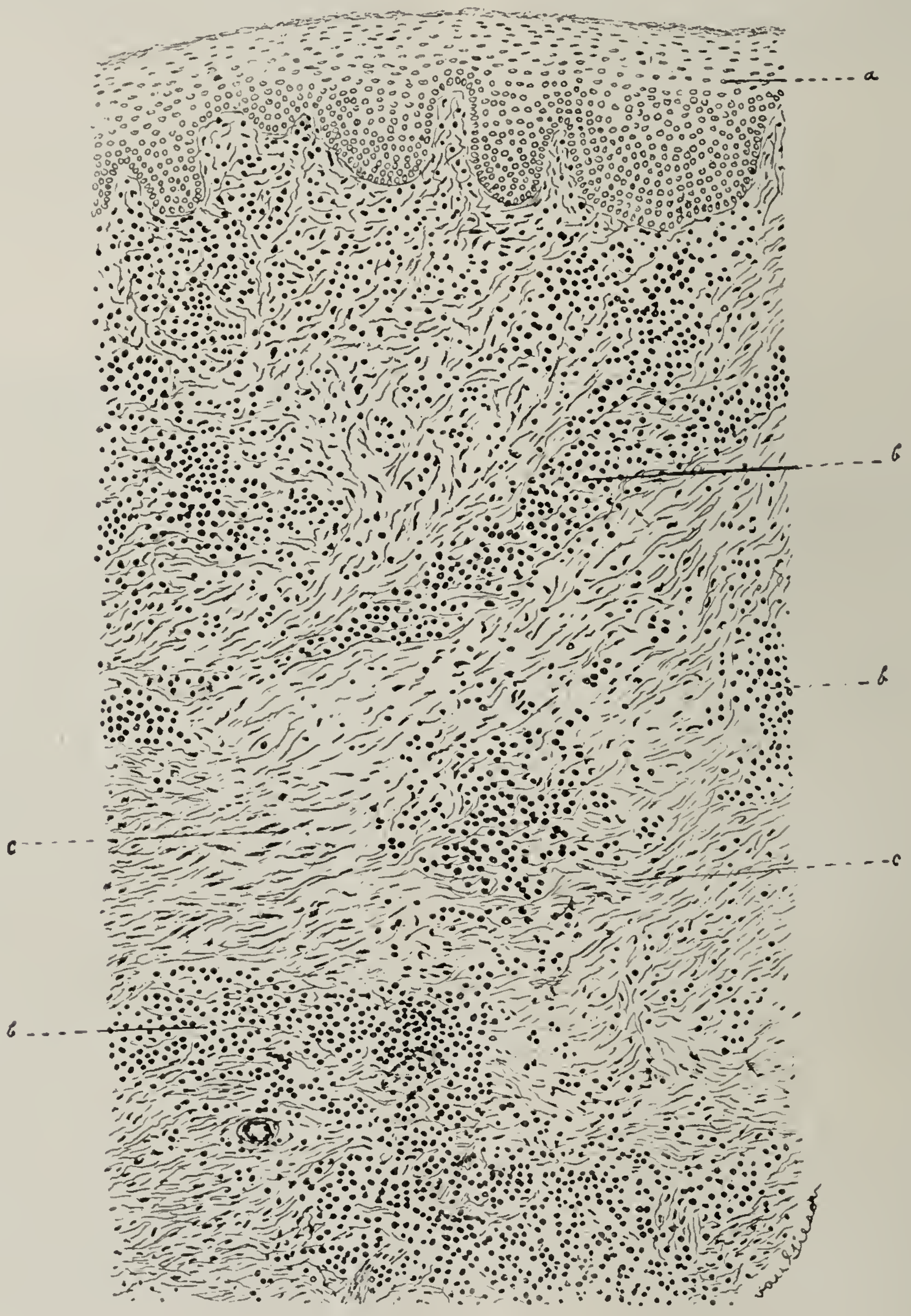

Fig. 21.—Section of the skin in Case II. *a*, normal epidermis. *b*, *b*, *b*, small rounded and polygonal cells, apparently derived from the connective-tissue cells, arranged for the most part diffusely. *c*, *c*, areas of new connective tissue, in which the spindle-shaped marks represent the fibroblasts.

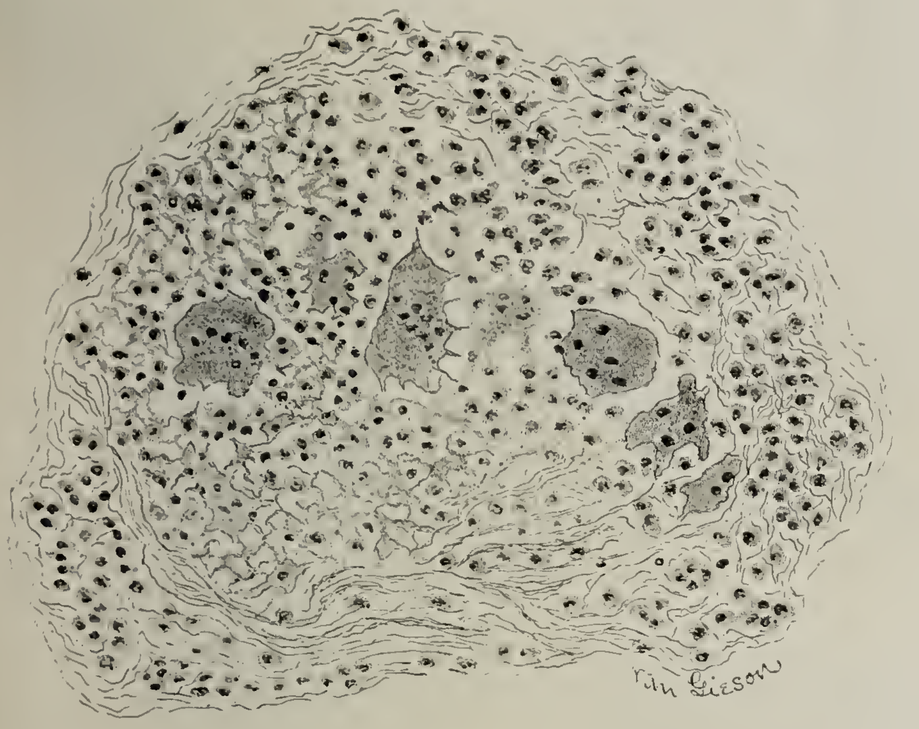

Fig. 22.—One of the giant-celled clusters from Case II.

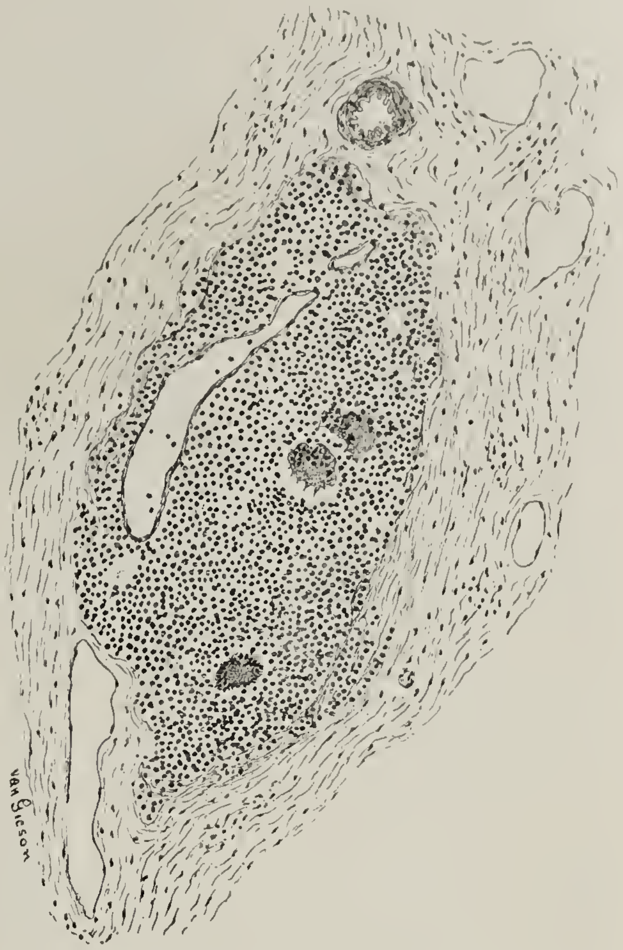

Fig. 24.—One of the giant-celled clusters from Case III surrounding a small vein.

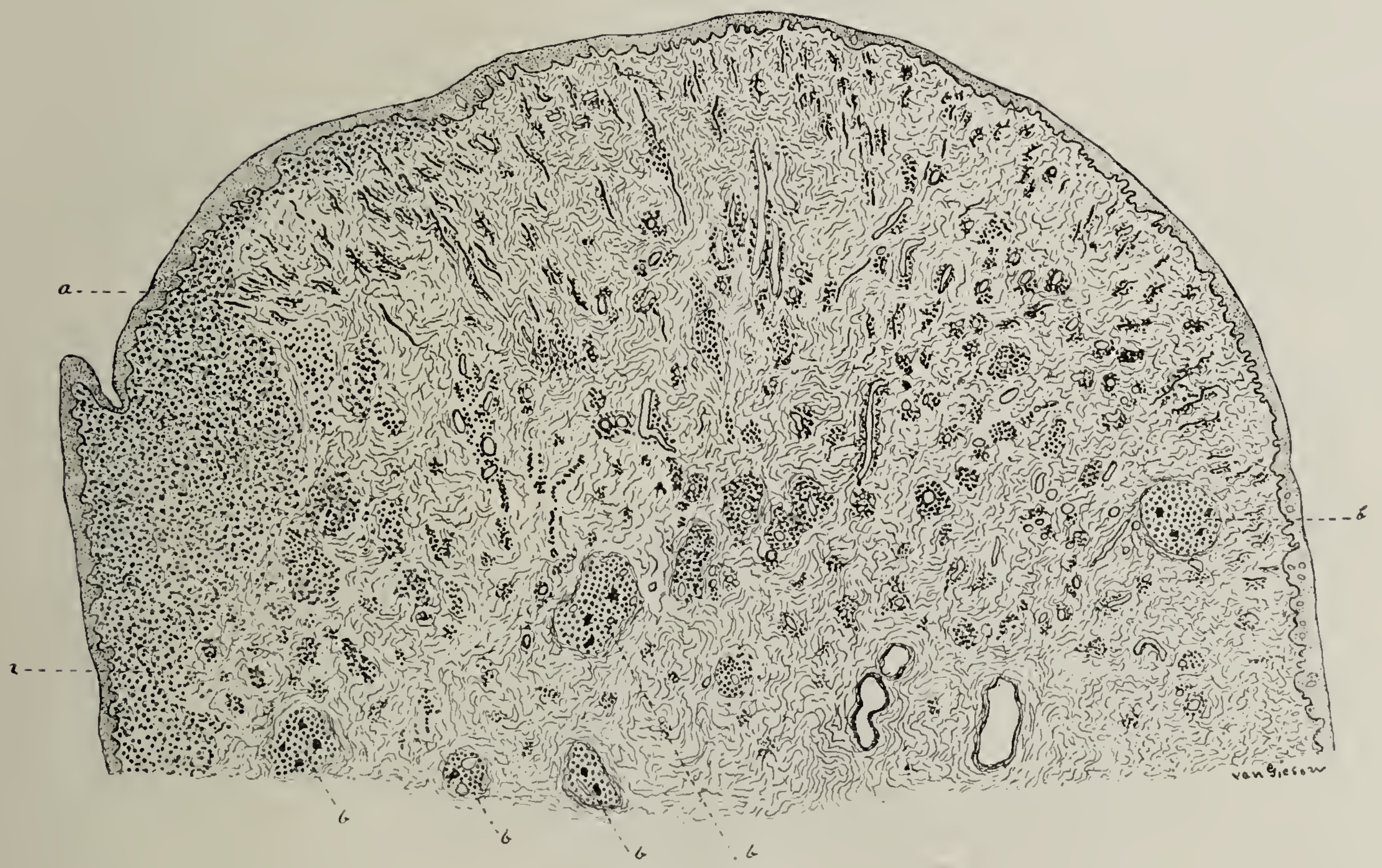
a
b
b
b
b
b
b
b
van Gieson

Fig. 23.—From Case II, showing a topographical view of the perivascular cell-clusters and their position in the extensive area of new connective tissue. *a*, zone of granulation tissue. *b*, giant-celled clusters.

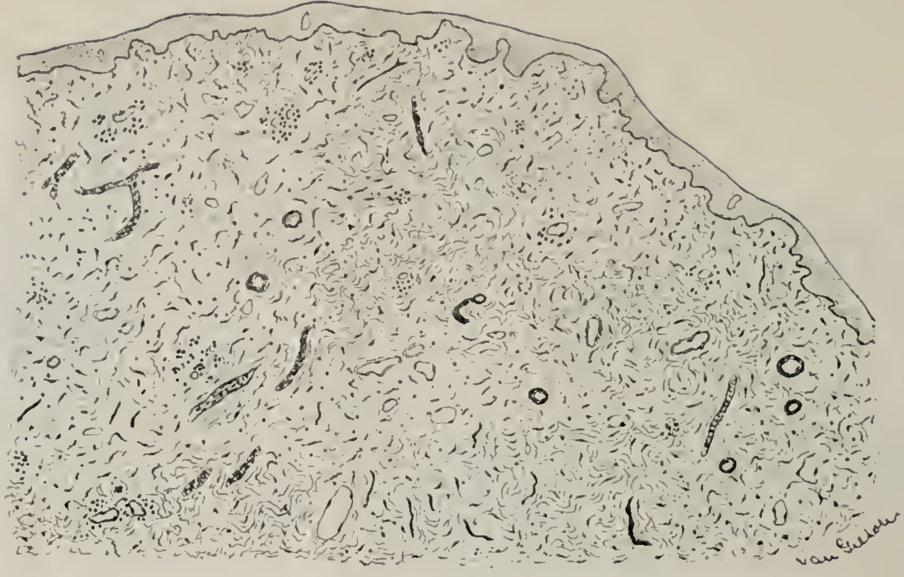

FIG. 25.—From Case IV, illustrating how in the case the growth consists quite exclusively of new connective tissue containing only a few rounded or polygonal cells. The small spindle-shaped dots indicate the fibroblasts.

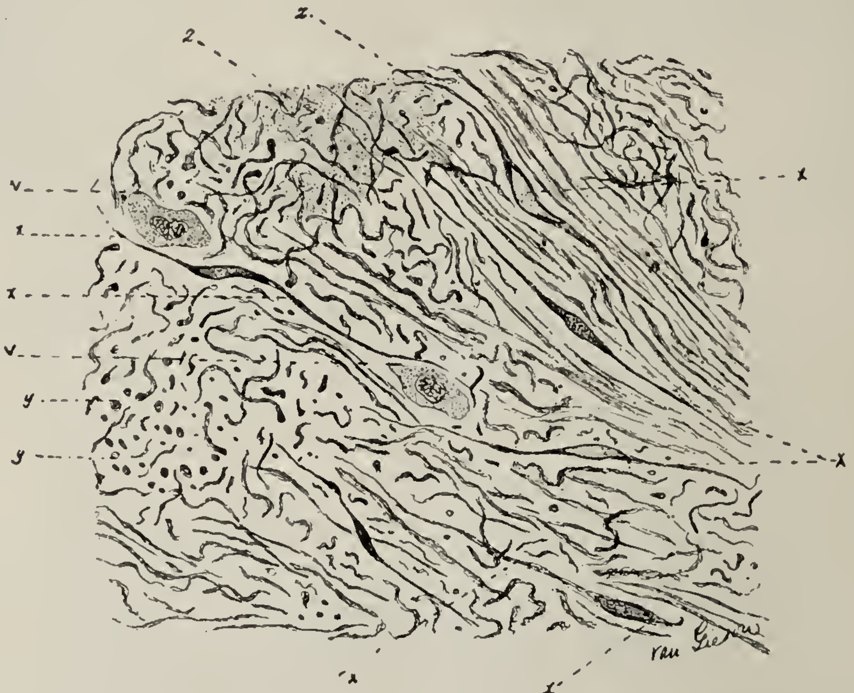

FIG. 26.—A portion of the section from which Fig. 25 was taken, more highly magnified, showing the minute structure of the new connective tissue. *x*, *x*, fibroblasts. *y*, *y*, new connective-tissue fibers and processes of the fibroblasts cut transversely. *v*, *v*, plasma cells. *z*, *z*, granular material in the interfibrillary spaces.

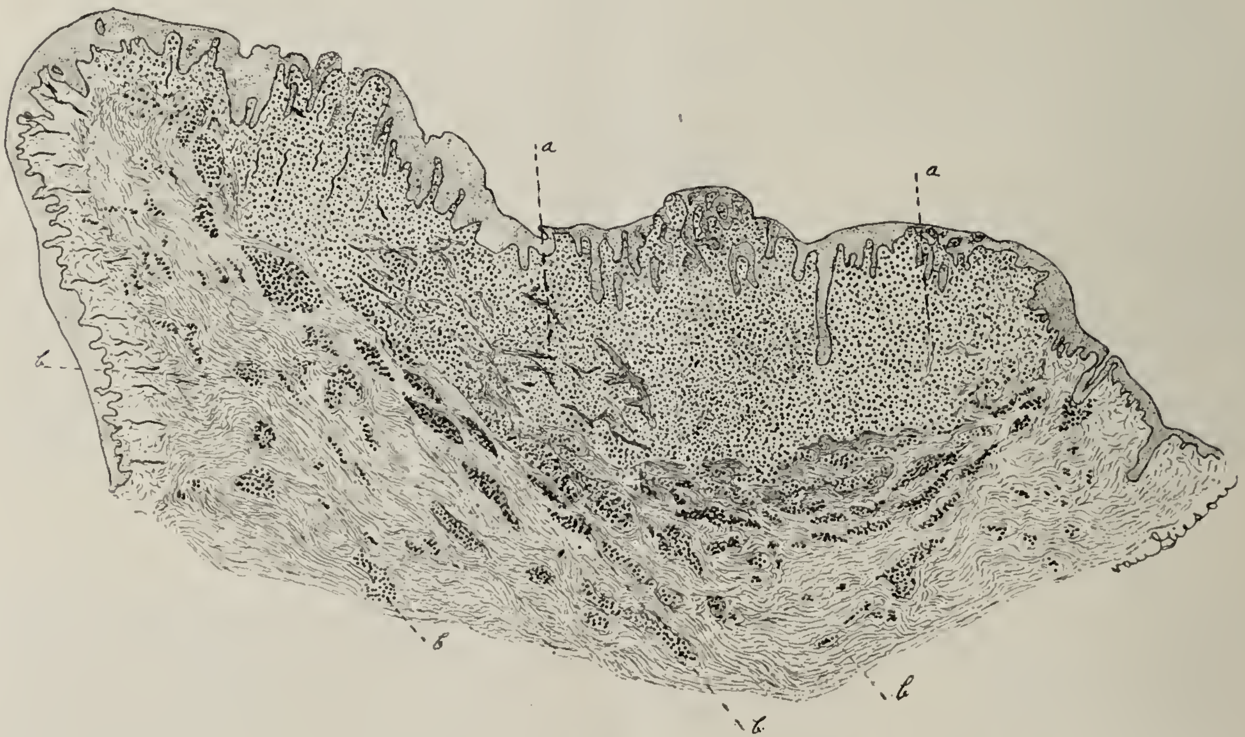

FIG. 27.—From Case IV, showing a patch of granulation tissue, *a*, *a*, which at two points has produced minute ulcers. *b*, perivascular clusters.

THE NEW YORK MEDICAL JOURNAL, January 4, 1890.

Original Communications.

CHRONIC INFLAMMATION, INFILTRATION, AND ULCERATION OF THE EXTERNAL GENITALS OF WOMEN,

WITH A CONSIDERATION OF THE QUESTION OF ESTHIOMÈNE, OR LUPUS, OF THESE PARTS.*

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In the year 1849 Huguier published a paper in which he detailed nine cases of hypertrophic and ulcerative vulvar disease, and from his studies of them he elaborated a disease which he called esthiomène. This disease he considered to be essentially a lupus, but he preferred to designate it esthiomène when it occurred about the female genitals, and lupus when found upon the face. He gave a fanciful sketch of what he regarded as topographical and pathological similitudes between the human face and the configuration of the external female genitalia, and, having classic authority for the statement that lupus appeared on the former, he made bold to claim that all non-malignant, hypertrophic, and ulcerative lesions found upon the latter were of necessity lupus, or, as he euphoniously called it, esthiomène. When I state that it is very probable that most of his cases were those of old syphilis, that their ætiology was wholly unexplored, and that the clinical history of the fanciful disease was given in a most positive manner, though based only on crude and far-reaching assumptions, it seems wonderful that his lucubrations were entertained by educated men. Yet even to-day, though there are a few dissenters, there are very many believers in a morbid entity which they call lupus or the esthiomène of Huguier. I do not know in all medical history of an essay founded on gross error and pure assumption which has had such influence for so many years in molding medical opinion, not only in France but in other countries.

In England, West, Matthews Duncan, Angus Macdonald, and others have published papers describing lupus of the female genitals, and, though they do not use Huguier's appellation, but its equivalent, lupus, the influence of his teaching is seen to pervade their writings.

In America, Huguier had until recently an ardent supporter in the late Dr. Isaac E. Taylor, who published two notable contributions to the subject of these vulvar lesions. It is an unpleasant duty to criticise adversely a living author, and it is painful to criticise the dead whom in life I much respected, but science knows nothing of friendships. Therefore it is with much reluctance that I say that the baneful influence of Huguier was transferred to this country, and was much intensified by Dr. I. E. Taylor's zealous advocacy of that misguided man's errors. In reading our lamented friend's memoirs, one can but wonder how such an eminent man could take such a narrow view of a subject and see only an occult disease in cases of simple inflammation, in ordinary vegetations, in syphilitic processes, and even in malignant new growths.

I regret very much that I can not speak in terms of high commendation of the essay of Dr. Grace Peckham on ulcerative lesions of the vulva, or of her handling of the question of lupus or esthiomène, for she shows so much zeal and industry and such a desire for light and truth. An attentive reading of her paper indicates that she sees that Huguier alleged too much and was probably wrong in his assumption, but notwithstanding that the specter of lupus hangs over her and she does not bring out and elaborate the strong points which her case really offers.

The latest Amercian contributor to the subject is my friend Dr. Hyde, who is disposed to give what in my judgment is too great an importance to the influence of syphilis in the causation of these vulvar lesions.

In Germany, Huguier's tenets have been largely received by gynæcologists, but we look in vain for a systematic consideration of the subjects involved in them by German authors, particularly syphilographers and dermatologists.

In these introductory remarks I have only mentioned certain authors whose contributions we may say are landmarks, but in an appended bibliography all authors and papers will be mentioned, while many cases will be criticised in the text.

A fair presentment of the views held to-day regarding simple (and by that I mean all processes not included under the head of malignant degenerations) hypertrophic and ulcerative vulvar lesions is as follows:

1. That they are identical with lupus or the esthiomène of Huguier.
2. That they are the result of essential and specific syphilitic processes.
3. That they are the result of some indeterminate ulcerative process.
4. That certain cases may be the result of tuberculous infection.

It may be further added that certain of those who do not accept the lupus theory look upon these affections as being peculiar and even extraordinary, and while some even regard them as mysterious and specific, they only indulge in generalities in speaking of them.

As early as 1870 I saw that the profession in general was all wrong regarding this matter, and that the only way to get at the truth was to study the subject *de novo*, entirely untrammeled by the views and theories of others. The rich venereal field of Charity Hospital and other medical positions held by me have furnished me with an abundance of material upon which to prosecute these studies. I have also invoked to my aid the talent of Dr. Ira Van Gieson, who has done the anatomo-pathological portion of this essay.

In reaching the conclusions here given I would say that much labor and time have been spent and that my aim has been to study the subject upon broad ground and to only accept appearances as worthy of being stated as facts after they had long been thought over and often verified. I felt that, on making such a radical departure as was necessary in the consideration of non-malignant hypertrophies and ulcerations of the vulvo-anal region, too much care could not be taken in the matter of clinical study, and that too much thought could not be expended upon the conclusions derived from that study. I feel therefore warranted in presenting, in brief, the following conclusions, which will be fully elaborated in the course of the essay:

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1. That a large and perhaps the greater number of chronic deforming vulvar affections are due to simple hyperplasia of the tissues induced by irritating causes, inflammation, and traumatisms.
2. That chronic chancroid is a cause in a certain proportion of cases.
3. That many cases are due to essential and specific syphilitic infiltrations.
4. That other cases are caused by the hard œdema which often complicates and surrounds the initial sclerosis and perhaps gummatous infiltration.
5. That many cases are due to simple hyperplasia in old syphilitic subjects who suffer from chronic ulcerations of the vulva long after all specific lesions have departed.
6. That some cases also in old syphilitics are due to simple hyperplasia without the existence of any concomitant ulcerative or infiltrative process, and seem to be caused by conditions which usually in healthy persons only result in vulvar inflammation.

The basis of this essay involved a consideration of several hundred cases of vulvar hypertrophies and many thousands of miscellaneous affections of the vulva.

In the matter of illustrations I have selected such cases as would in my judgment best present the subject, and I have not aimed at showing very much exaggerated ones.

Simple Hyperplasia and Hypertrophy.—For clearness and fullness of clinical description we must consider in a general manner the smaller orders of tumors of the vulva, since they naturally lead up to the larger growths which are found on these parts. These smaller orders of tumors are, first, papillary growths or vegetations, and, second, hyperplasia of the various prominences, folds, and anfractuosities found within the more or less complete ellipse formed by the labia minora.

As to vegetations of the vulva I need say little just here, since they will be quite fully considered a little further on in this section of the subject. They may occur singly or in various numbers, and are prone to develop in the vulvar sulcus, chiefly around the urethral and vaginal orifices. They are commonly seen on all portions of the vulvo-anal region, and show no tendency whatever to localization to the vulvar ellipse. They are of a pinkish or deep-red color, spear-shaped, digitate, sessile, pedunculated, cauliflower-like, or they may resemble strawberries of various sizes. They are essentially papillary hypertrophies, and show a tendency to exuberant growth. The latter feature and their tendency to irregular and scattered development are points of diagnostic value in separating them from the hyperplasic lesions now to be considered.

Simple new growths of the vulva have been variously called polypi of the urethra and of the vagina, hypertrophied caruncles—berry-like tumors—villous growths, warty excrescences, and papillary polypoid angeioma. Though there is much uncertainty in the minds of medical men as to their real pathology, and though the most varied views are entertained as to their essential nature, the matter is a very simple one. In my studies of the larger orders of hypertrophies I included a consideration of the pathology and clinical history of these smaller ones. As a result I found that, clinically, the larger growths were but exaggerations of the smaller ones, and I also learned, through pathological and microscopical studies, that the morbid process observed in small lesions can be traced in progressive and undeviating development through all sizes of these simple hypertrophies until the enormously large ones are reached. This progression of development is well shown by description and illustration in the section on pathological and microscopical anatomy of this essay. I thus strongly state these facts for the reason that I have seen the affection begin in an insignificant manner on or within the labia minora and in the course of years eventuate in the development of enormous vulvar hypertrophy. Further than this, I have been able to confirm the clinical facts which I have observed by what I deem satisfactory and convincing microscopical studies of the small, intermediate, and large lesions which I excised.

The small growths of the vulva, which may properly be called hypertrophied caruncles and simple hyperplastic tumors, are found either singly or in numbers of from two to a dozen or more. They are sometimes very small, of the size of a large shot, or as large as a pea or a strawberry, or even larger. They may present a decided firmness of structure, or they may be soft and vascular, and between these two extremes there are many gradations. They may be of a pale-pink color, of a bright scarlet-red tint, of a deep-red, or of a purplish hue. When they are very firm, the hyperplasia is composed of all the cell elements of the mucous membrane and fibrous tissue, and the new growth of vessels is not excessive; but in the softer variety there is a greater amount of new-vessel development, consequently they are more vascular, of deeper color, and softer in structure. These facts will fully explain the varying clinical features of density and color. I may, in passing, remark that these lesions may give rise to no uneasiness whatever, but may also be the cause of great suffering, paroxysmal or continued, chiefly from pruritus and neuralgiform symptoms, particularly when they are near the urethral or vaginal orifice.

There certainly should be no doubts in the mind of the observer as to the nature of these new growths, and in the majority of cases in women under forty years of age a suspicion of cancer need not be entertained for a moment. But, strange to say, all sorts of opinions are entertained as to their nature, and that which is in reality simplicity itself becomes doubt and obscurity in the minds of the untrained and those who are imbued with the idea that lupus of the vulva is common. It is an unpleasant and ungrateful task to criticise other men's work, but, in order to clear the subject of the clouds which hang over it, I must pass judgment on cases of this form of trouble reported under improper names. No one more than I respects the deservedly high position of Dr. J. Matthews Duncan, and it is with some hesitation that I say that, after a careful study of his valuable papers in the "Transactions of the Obstetrical Society of London" and of his paper in the "Edinburgh Medical Journal," I firmly believe that his Cases I and II in the former and Cases I, II, and III in the latter—reported, respectively, as *lupus minimus* and *hæmorrhagic lupus*—are not of a lupoid nature at all, but that they are typical instances of simple local hyperplastic growths. Neither in appearance, course, nor outcome do these growths present any affiliation whatever to lupus, and their denomination by that title is wrong and productive of nothing but error and confusion. Dr. Duncan very candidly says that Dr. Thin, in careful microscopic examinations, failed to find any evidence of lupus in any of the excised growths given him by Dr. Duncan. He further admits that he uses the term lupus because others did so, and a careful reading of the text shows that Dr. West, in his book on diseases of women, adopted Huguier's views as to lupus of the female genitals, and that Duncan followed West.

It must not be assumed that all these small growths increase in size and eventuate into larger ones. Many remain for years without any notable increase in size, others become larger and troublesome and are excised, and perhaps but few reach large proportions. Social position, personal cleanliness, and many other considerations tend to determine the life history of these growths. It should always be remembered that, as age increases, these benign growths are very liable to become malignant in character. This is particularly the case with the more vascular ones. Consequently the surgeon should always recommend their ablation in women about and beyond forty years of age.

Large Hyperplasiæ and Hypertrophies of the Vulva of Simple Origin.—We come now to a consideration of the larger orders of vulvar hypertrophies. Like the smaller ones, they may be found in early puberty, up to middle life, and are less common in persons beyond forty years of age.

These hyperplasiæ are, as a rule, the direct result of some irritation or of traumatism. Vulvar inflammation, whether simple or the outcome of antecedent chancroids, elytritis, herpes progenitalis, leucorrhœa, gonorrhœa, uncleanliness, masturbation, tears in coitus and parturition, scratches, cuts, bruises, eczema, and all forms of traumatisms, have been found to be exciting causes.

It is impossible to give a systematic and comprehensive description of these hypertrophies, since they all differ from one another. This is due to the fact of the very great variation in the conformation of the vulva in women. In some the labia majora are large, in others very small and exceptionally absent. The labia minora are seen in an infinite number of sizes, shapes, and general configurations. Some are long and thin, some short and thick, some smooth on their free edge, others irregular and perhaps festooned or frilled. Then the structure of the vestibule, the condition of the introitus vaginæ, and the shape of the fourchette are found to vary so greatly that nothing like uniformity is seen. It can be readily seen, therefore, that a good-sized essay could be written on all the varying appearances offered by these vulvar growths, and then the limit would not be reached.

In some cases there is simple enlargement of the natural parts, but in the majority there is more or less deformity and even distortion. Very little of diagnostic importance is offered by a study of the various shapes and sizes of these growths. I have selected from my cases three which, in their appearances and clinical history, are, I think, all that are necessary to convey a clear idea of these growths. The first case (see Fig. 1) shows the localization of the affection in one nympha, and its history is as follows:

CASE I. *Hyperplasia of One Nympha and of a Part of the Perinæum.*—J.T., aged thirty, widow, domestic, free from syphilis, had severe attack of herpes progenitalis involving the right labium minus when twenty-eight years old. About six months later she had a profuse purulent vaginal discharge for a time, and then noticed that the right labium minus was sore and slightly inflamed. She drank considerably and paid very little attention to her genitals, and in a short time the inflamed part became noticeably enlarged and of a deep pinkish-red color. Though she followed treatment at times, the enlarged labium steadily increased in size until it reached the proportions shown in Fig. 1. It is seen to be a flat tumor, semicircular in shape, quite deeply indented on its free margin, and limited sharply to the right labium. Its color was of a whitish pink when the patient was long in the recumbent position, and of a pronounced pinkish hue when she walked very much. She thought that the dimensions of the tumor were increased when she took active exercise. She was very clear as to the fact that in its early days the tumor was of a rosy red color, softer and thicker than now, and that as it had grown older it had become decidedly contracted and much firmer in consistence. At the base of the enlarged nympha corresponding to the introitus vaginæ were two small superficial ulcers of simple character. The perineal rhaphe was somewhat thickened and ended in a thickened and flabby pouch-like mass of skin, which hung over the unaffected anus as she lay on her back. The inguinal ganglia were unaffected. Beyond a sensation of heat and pruritus which occurred in short paroxysms, the patient experienced no discomfort from her vulvar affection. As she was a woman tolerably careful of her person, it is probable that the morbid processes of hyperplasia and ulceration were in a measure held in abeyance. I excised the labial growth, and the vulva was soon restored to a seemingly healthy condition. She declined operation on the growth at the margin of the anus. Two years were occupied in the development of these hyperplasiæ. They had no influence upon her health whatever.

It will be noted that the labial hyperplasia began in this woman at the age of twenty-eight and reached the size depicted in Fig. 1 in about two years.

It is important here to call attention to the flabby, pouch-like tumor at the anal orifice, since growths like it are so common in all cases of vulvar hypertrophy whatever may be their origin. These protrusions are not, strictly speaking, piles, for the reason that they are not of necessity connected with the anus, certainly in their early stages. They seem to begin as hyperplasiæ of the skin of the perinæum, and as they grow to settle themselves on the anterior margin of the anus. In the uncomplicated condition they do not impinge upon the anal orifice, but as they grow larger and broader they involve that outlet more or less, at first on its integumental part, and later, in very chronic cases, the rectal mucous membrane may become affected by the hyperplasia.

In Fig. 2 we reach a stage of excessive hypertrophy of the vulvar tissues, and a study of Case II brings out many interesting and important points.

Case II. *Hypertrophy of Both Nymphæ and of the Clitoris.*—R. M., aged twenty-five, American, single, had cohabited with men from her sixteenth year, but was free from syphilis. She had had numerous attacks of mild vulvar and vaginal inflammation, due to sexual irritation, but gave no history of gonorrhœa. About a year before the date of operation she noticed that the carunculæ myrtiformes were rather red and tender, and that some of them soon increased to the size of small peas, being firm and somewhat shotty to the touch. Then she noticed that her external genitals were growing larger and protruded, whereas in former years the nymphæ had habitually been closed in by the labia majora. In the early period of the development of these vulvar growths they were of a bright-red color, and from their inner surfaces bloody serum exuded at times. On one occasion a mild hæmorrhage took place which lasted several hours. At this time also the thickness of the labia was much greater than it was when the swellings became as large as shown in the figure. She experienced very little occasional heat and pruritus in the parts, and only applied for relief when they became rather obstructive to copulation. When first seen, the nymphæ and clitoris were much hypertrophied. The left tumor was fully five inches long, and by traumatism became gangrenous in its distal half, which soon fell off. The parts presented the appearance and color of integument, were firm, even leathery and resistant, not at all sensitive, perhaps rather callous, and they had an irregular lobulated and nodulated contour. They are well shown in Fig. 2. On several occasions mild and ephemeral ulcerations had existed in the deep vulva, but they caused no uneasiness. Two weeks after removal of the hypertrophied parts the woman stated that she was as well as ever, and left the hospital. In this case the irritation from the myrtiform caruncles extended to the lesser labia, and this led to their hypertrophy. In the early stage of the affection the parts were softer, more succulent, and redder; as it grew old they become condensed and gradually lost their color, until they came to resemble closely ordinary integument. The general health was wholly unaffected. There was no involvement of the inguinal ganglia.

In this case, as a result of simple local inflammations, the myrtiform caruncles became inflamed and then hyperplastic, and from these foci the new growth extended and involved the labia minora, including the prepuce of the clitoris, and that organ itself, in hypertrophy. The low form of inflammatory, red, œdematous infiltration of the vulva which was observed early in the woman's medical history will be fully discussed later on. In this and the preceding case the limitation of the morbid process to the vulva and nymphæ is clearly marked. In them, also, the tendency of the affection to push outward and downward is well shown. Later on, however, the deeper parts might have become invaded, as we shall see. Case II, therefore, may be accepted as a typical one, showing involvement of each and all of the parts of the vulva. Though the introitus vaginæ was at the date of the operation thickened and less supple than normal, this condition was undoubtedly due to symptomatic irritation, since in a few weeks after the operation the natural condition of the parts was restored.

In Fig. 3 we observe the acme of the hyperplastic process, which centered itself in the præputium clitoridis and a part of a nympha.

Case III. *Hypertrophy of the Clitoris.*—N. M., twenty-six years of age, Irish, married, had not suffered from any vulvar or vaginal affection. Six months before the operation she had fallen upon a fence and wounded the mons Veneris and upper part of the vulva. These regions were the seat of ecchymosis and pain for about two weeks. Shortly after, the patient noticed a protrusion from the upper part of the vulva, but, as it was unaccompanied by pain or inconvenience, she paid no attention to it. It, however, grew quite rapidly, until in about eighteen months the growth measured four inches, and, besides being very inconvenient from its bulk and situation, it caused uneasiness by its weight. The patient noticed that when she was on her feet very much the tumor was larger and of a deeper color than it was if she remained recumbent. There was no affection of the inguinal ganglia. The mass is well shown in Fig. 3. It was rather more than four inches long and about two inches at its widest part. It involved the prepuce of the clitoris and a portion of the upper part of the left nympha. It was hard and firm in consistence, of a pinkish-white color, and its surface was studded with lobulations and intersected with large and small furrows. It was ablated, and the woman left cured.

It is interesting to note that this large tumor grew in about eighteen months. It is an example of the rapid development of vulvar hyperplasia. In this case there was positively no syphilitic complication, and such is the condition of many women thus affected. Years ago I had under my care a woman, aged twenty-four, suffering from a similar hypertrophy of the clitoris, who had syphilis shortly before the onset of the vulvar lesion. This case was afterward under the care of my colleague, the late Dr. Bumstead, in Charity Hospital, who removed the mass, the posterior surface of which is shown in Fig. 16 to be irregularly tuberculated and lobulated. It is interesting to note that Dr. W. P. Bush reports a case of this form of hypertrophy in a woman twenty-four years old, who had had syphilis some years previously. These observations are interesting in connection with cases of hypertrophic vulvar lesion in syphilitic women which will be considered further on.

A special point of interest in this case is the rapidity of development of this enormous growth. Assuming that the patient's story was correct (and great care was taken to get at the truth), the large mass was developed in about eighteen months. This I may say is very exceptional, for in several other cases I have noted that the time occupied in the growth of hypertrophy of the clitoris has been two or more years. In the present instance the trouble began in trauma, but I have seen a number of cases in which hypertrophy of the prepuce of the clitoris was due to masturbation. I have now under observation a woman of twenty-two who, since her twelfth year, has produced almost daily one or two orgasms by digital irritation of the clitoris, and yet the hypertrophied mass is not larger than the first joint of one's thumb. Strange to say, the woman remains in excellent health.

In this affection it is very probable that the hyperplastic process begins in the prepuce, and that later on the body of the clitoris is involved.

These hypertrophic growths of the vulva have been wrongly called elephantiasis, notably by Hildebrandt, and more recently (1885) by Zweifel. Neither in their clinical history nor in their pathological anatomy do they in any way resemble true elephantiasic growths, which are due to lymphatic inflammation with connective-tissue increase. They are elephantine only in size.

Vulvar Hypertrophy Consequent upon Vegetations.— There is a form of hypertrophy of the vulvo-anal region of women which I believe has not heretofore been mentioned by authors. The initial stage of this form consists in the development of simple vegetations on any part of the external genitals. Owing to neglect, want of care and cleanliness, and of surgical intervention, these growths become enlarged as they also usually increase in numbers. As they grow in height and breadth, particularly those on the outer portions of the labia majora (where they are subject to continuous friction), they lose their warty appearance and come to look like nodules, processes, or tabs of skin. They are, as it were, polished off, losing entirely their granular, raspberry-like look, and taking on the appearance of integument. In Fig. 4 this form of hypertrophy, in its initial and advanced stages, is well shown. The figure was taken from life, from a young pregnant woman who had suffered for a long time from leucorrhœa, the irritation from which led to the development of the new growths. In the depth of the vulva three rows of typical vegetations may be seen, and on the outer edge of each of the labia majora a string of fleshy masses, which had been vegetations which had undergone the polishing-off process, may be seen. Over the perinæum are a number of conical tumors of like origin, and hanging over the anus is a large, gourd-shaped mass and several smaller ones, which had resulted from the transformation of several clusters of very exuberant warts. Unless ablated, these tumors inevitably lead to great hypertrophy and disfigurement of the parts. They, acting as low-grade inflammatory foci, induce hyperæmia and hyperplasia in the vulva, and in the end lead to its great distortion. I have many times seen this general hypertrophy of the external genitals by warts, and I recall an instance in which these growths, being very large, were ablated, and in their stumps hyperplasia took place, which led to great deformity. The practical teaching of these cases is not only that these new growths should be thoroughly removed, but that great care should be taken that their sites shall not become the foci of hyperplastic new formations.

In this connection it is interesting to note that in the late Dr. Isaac E. Taylor's latest brochure ("Lupus of the Cervix Uteri and Female Genitalia," 1888) his Cases III and IV, which are reported as *lupus prominens* with their hypertrophy of the labia minora, are simply instances of very luxuriant simple vegetations. Further, it may be added that his second case is one of this form of growths, which, while becoming flattened and less warty, have given rise to much adjacent hyperplasia. The formidable titles of "*lupus superficialis*" or "*lupus serpiginosus*" are given to the case. Case I of this interesting paper is an excellent example of malignant new growth of the genitalia of an old woman, though it is labeled "*lupus hypertrophicus et tuberosus.*"

In the matter of the diagnosis of this form of vulvar hypertrophy it is well to remember that these new growths may be found not only on the vulva, but also and very commonly on the outer surface of the labia majora and parts around them.

There are a number of conditions relating to the early stages of these vulvar hyperplasiæ which demand consideration. In many subjects, particularly young, cleanly, and healthy ones, these hypertrophic growths run their course to full development without any perceptible signs of inflammation. The growths in these subjects are, while increasing, of a pink or pinkish-red hue, and, as they grow larger and push from between the labia majora, they become blanched and finally may look like integument.

In another class of cases, particularly in unhealthy, uncleanly women, in those subject to any vaginal discharge, and in women about and after the menopause, we see synchronously with their growth an increase in inflammatory and quite densely œdematous features. In these cases there is always more or less concomitant vulvar hyperæmia. The hyperplastic parts (when their mucous membrane is yet intact) are either of a deep-red or of a dull-violet-red color. They have not the firmness of structure, perceptible to the touch, of the less hyperæmic growths, but are rather softer and, we may say, more succulent—a condition, in all probability, due to a correlated œdematous exudation.

In this soft and succulent stage of the hypertrophies there is, besides the lesser degree of sharp limitation and of localization, a decided tendency to ulceration, particularly in the fissures, sinuosities, and anfractuosities which are found in them. In all uncomplicated cases of these simple forms of hyperplasia it will be evident to a careful examination that the ulcerative process is always secondary to the hypertrophy. It is usually plain to the observer that the power of resistance of the morbid tissues to irritation is greatly impaired, and that when pressure exists, as from close coaptation of the parts, or when any irritation is exerted, there will he find ulceration. These ulcers, however, do not present any pathognomonic features, and it is amusing reading to peruse the descriptions of these lesions by those who lean to the view that they are due to lupus. They see distinctly that the ulcers have not a lupoid look, and they go over point after point trying to reconcile in their minds the evident discrepancies.

We find as concomitant features of these vulvar hypertrophies simple excoriations, smooth ulcerations, with or without slight or pronounced granulating tendency, indolent conditions, and sometimes sluggish ulcers covered with necrotic detritus. They are almost always, however, in uncomplicated cases, what we may term simple ulcers, having the most varied shapes—linear, penniform, irregular, and stellate—and differ very markedly from those we shall study in the two following sections.

But, simple as they are, they exert a very bad effect upon the course of the new growths. They tend to increase the morbid process itself, and they themselves very often grow and cause incalculable mischief. Thus they may burrow and cause fistulous tracts into the labia and urethra, work their way forward and cause vesico-vaginal fistula, pass backward into the ischio-rectal space, and even into the rectum, forming a channel between it and the vulva or vagina. Then, again, they frequently lead to necrosis of small and even large hypertrophic growths by eating them away at their bases.

These ulcerations often cause mild and even severe hæmorrhage, which is usually readily controlled when they are superficial, but which may be very intractable when they are deeply seated.

It not uncommonly happens, when both sides of the vulva, as is very common, are the seat of hypertrophy in the succulent stage, that excoriation of the coapted surfaces occurs, and from them there is an oözing of bloody serum or blood. It is this condition, undoubtedly, which the older writers observed in what they called *oozing tumor.* There can be no doubt that the third case of Dr. Angus Macdonald and the fourth case of Dr. Matthews Duncan (reported in the "Edinburgh Med. Journal"), called, respectively, lupus and hæmorrhagic lupus, are instances of simple hyperplasia of the vulva in the succulent and excoriated condition. I am also convinced that the very interesting case of Dr. Peckham's belongs to this category, and I know of no better illustration of this complication than is given in the chromo-lithographic plate which accompanies her valuable essay.

In favorable cases the succulent stage of these growths gradually subsides and the parts slowly pass into the condition of condensation, until in the end a dense, leathery state may be reached.

In bad cases—and they are generally in old women—however, the trouble extends, and destruction of the vulva and its canals is more or less complete. In this event the patient gradually wastes away from marasmus, dies of phthisis, or of chronic diarrhœa or dysentery. For many years, however, the general health may remain unchanged, and only when the destruction is great, and the natural outlets of the body more or less destroyed, do signs of breaking up begin to show themselves.

When ulceration attacks these hypertrophies there is very often more or less enlargement of the inguinal ganglia.

I have been particularly struck with the fact that I have never seen cancerous degeneration of any of these hyperplastic growths, even when they have become very old and when very much irritated. The little red vascular tumors of the caruncles and vulvar fringes may from irritation become epitheliomatous in women toward and beyond forty years of age, but when they have reached the stage of condensation they, like their larger congeners, may become much inflamed and ulcerated, may be the seat of abscesses, and may slough off, but they show no tendency to become epitheliomatous. This is probably due to the fact that, with the thickening of the skin, it becomes impervious to the invasion of exuberant epithelial tissue from above.

In some cases I have seen much ephemeral hyperæmia and an erysipelatous condition of the growths and parts around them, particularly in those who had become infected with gonorrhœa, who had vaginal discharges and were uncleanly, and also in women who had returned to the hospital after a protracted debauch.

In their succulent stage these hyperplasiæ might possibly be mistaken for epithelioma, but the mistake should not last long. Epithelioma is usually more localized, of a much greater density even to stoniness, is productive of a large warty or papillomatous and ulcerated surface, and is very soon accompanied by enlargement of the inguinal lymphatic ganglia. The ulcerations of epithelioma are upon the surface of the neoplasm, while those of simple hyperplasia are mostly found in the interstices and fissures and at the bases of the simple hypertrophies. Epithelioma of the vulva gives rise to pain of a lancinating character, while the subjective symptoms of the simple growths are not severe and consist mostly of heat and pruritus. In any case, the diagnosis can be made at once by a microscopic examination of the morbid tissue.

We shall see in a later section the various manners in which syphilis affects these parts.

Hyperplasia resulting from Acute and Chronic Chancroidal Ulcerations.—Hypertrophies of the labia majora and also of the labia minora, as a result of chronic chancroids, are far from uncommon. Any one who has had large experience in the treatment of these ulcers in women will at once call to mind cases where, after the healing of the ulcer or ulcers, a persistent and rebellious thickening of the parts remains. Time, care, and appropriate treatment will, in most cases, cause the disappearance of this residual thickening. But, when patients are careless or refractory to treatment, uncleanly, and given to drink, the hypertrophy, if it has attained a moderate size, will almost inevitably increase. Then, again, we constantly find it perpetuated by gonorrhœal and leucorrhœal discharges. I have many times seen hypertrophies, as large as those depicted (and presenting the same general appearances) in Figs. 1, 2, and 3, which have developed after little, red, thickened spots or patches, deep in the vulva, or on a nympha which had previously been the seat of a chancroid. The foregoing remarks apply to conditions secondary to what we may call acute chancroids—that is, lesions which have come and have disappeared within one, two, or three months, for this form of ulcer is very persistent in women.

In like manner hypertrophy of the vulvar introitus, vaginal and juxta-anal region is far from infrequent as a direct result of chronic chancroids. I could present many striking and even exaggerated instances of this form of trouble, but I prefer simply to show two cases which, owing to the external position of the chancroids, offer a very favorable opportunity to view their extent as well as the secondary hyperplastic results which they have given rise to.

In Figs. 5 and 6 is well shown a very clear case of vulvar chancroid which has produced much external and internal deformity. Its history is very interesting, for it gives in a general way an idea of the chronicity of the ulceration and of the indifference and carelessness of its bearer.

Case IV. *Chronic Chancroid of the Nymphæ with Hyperplasia of the Vulva and Lower Part of the Vagina.*—J. M., aged thirty-five, American, widow, free from syphilis, had chancroids of the labia minora two years previously, which were cured in three months. She noticed that after the healing of the ulcers the parts were thick and red, more tender than formerly, and that they had a tendency to bleed slightly after coitus. Remaining well, with this exception, for a year and a half, she again contracted chancroids and entered the hospital after they had lasted about three months. At this time the labia minora and præputium clitoridis were as seen in Fig. 5, very much hypertrophied (for in the normal state they did not protrude between the labia majora), and on their surfaces small and large papillations or nodulations were to be seen. The protruding parts were firm, even dense, in structure, and slightly darker than the integument of the surrounding parts and without any evidence of inflammation whatever. When the nymphæ were separated a large chancroidal ulcer was seen extending from the right nympha on the lower surface of the præputium clitoridis to the left nympha, and extending back to the introitus vaginæ. In Fig. 6 the outlines of this large superficial ulcer may be seen rather deep in the vulvar slit. The introitus vaginæ was much thickened and considerable resistance was offered by the resulting stenosed condition to the introduction of the finger, which revealed thickening of the lower half of the vagina. The parts felt hard and brawny. Jutting from the fourchette was one large and several small masses of hyperplastic tissue, which were formerly little fringe-like masses of the ruptured hymen. The hyperplasia, which had now lasted fully two years, was in the well-marked succulent stage, and without the ulcerations would pass for that due to simple causes. The hyperplasia had also involved the perineal rhaphe and had caused a nutmeg-sized, pedunculated, fleshy mass which grew from the anal margin. Upon the healing of the chancroid the woman went out, her external genitals being in a state of decided hypertrophy and infiltration.

The history of this woman is simply a repetition of that of most of her class thus affected. In the hospital we call them "rounders," for they come and go. This woman stays in the hospital just long enough for the healing of her ulcer and then departs as she did a year previous after her first chancroid. If the ordinary observer had seen her on her departure, her genitals being the seat of a rather red succulent hyperplasia, he might have pronounced it lupus. The painlessness of the genitals in this condition is often surprising, and, although the ostium vaginæ is often hard and rather unyielding, these women continue to have promiscuous coitus. After an acute stage the hyperæmia settles down into an indolent condition which may thus remain indefinitely, or it may be succeeded by an exacerbation of inflammation and ulceration due to drunkenness, debauchery, and general uncleanliness. Internal medication is powerless to aid them, and topical applications, which are slow to heal the parts in the early stage of the career of these women, in the later periods have little and often no effect. As the trouble becomes chronic, the whole vulva, more or less of the vagina, the anus, the rectum, the vesico-vaginal septum, and vagino-rectal space become inflamed and hyperplastic, and, as a result, ulcerated.

In general, chancroids on the clitoris and external portions of the genitals heal readily, while those of the ostium vaginæ, of the inner surfaces of the labia minora, and of the fourchette are often very difficult to cure, and they show a tendency to become chronic, to induce hyperplasia and hypertrophy of the parts. In the chronic stage, in proportion as the ulcers are deep and inaccessible and as they involve the natural outlets, they are menaces to life in the disastrous conditions which they lead to.

Large or small fleshy masses, the result of an extension of the inflammatory process, may occur on the perinæum or at the margin of the anus. Fleshy tumors and excrescences may result from chancroids hidden in the puckered folds of the anus.

In the next case the chronicity of the chancroid of the labium minus extending as far back as the ostium vaginæ is well shown, the resulting hyperplasia is made very evident to the eye, and its indolent persistency is well attested in the fact that judicious treatment of a year's duration was necessary for its dissipation.

CASE V. *Chronic Chancroid of the Left Labium Minus with Adjacent Hyperplasia.*—C. R., American, a domestic, aged forty-eight, never had syphilis, had a small chancroid just above the fourchette on the left labium minus, which had lasted nearly a year, when she entered the hospital. It then was an elevated ulceration (ulcus elevatum) on the inner side of the left nympha about the size of a silver quarter. It showed no tendency to extend, but remained in an indolent condition, became hyperplastic and elevated. The corresponding nympha was very much thickened, hard, and elastic, and the hyperplasia continued from it into the vagina for about an inch. The appearances are well shown in Fig. 7, which was made from a photograph taken fifteen months after the chancroidal infection. It will be seen that the hyperplasia is well limited to the affected nympha. Though this woman received the utmost care from my internes and nurses, the ulcer healed very slowly, and it required a full year's treatment (for, contrary to the custom of these patients, this woman remained continuously in the hospital) to produce resolution in the nympha and the introitus vaginæ.

These chronic chancroids with great vulvar hypertrophy are usually found in women beyond thirty and forty years of age. Such women, as long as they are in any way attractive to the male sex, remain in the hospital just long enough to become "patched up," as we may say. In the early years of their trouble their general health does not suffer, and it is to the uninitiated a matter of surprise to see women with distorted, disfigured, and ulcerated vulvæ complain so little if at all, and seem so well. As time goes on, however, things change. Ulcerations may perforate the urethra, the bladder, the vagina, and the rectum, and they may burrow and form large cavities which may open by fistulous tracts about the buttocks or thighs. Hæmorrhages of greater or less severity may take place and erysipelatous inflammation, beginning about the genital parts, may spread beyond and be accompanied by severe systemic reaction. Then, as years go by, signs of decay show themselves. The patients begin to cough and emaciate, and a rapid phthisis may end their misery. They may become attacked by affections of the kidneys and liver which prove mortal. Then again we constantly see these women fall into a condition of marasmus, over which treatment has no influence whatever. And again we see life gradually sapped by rebellious chronic diarrhœa or dysentery. I have seen several of these women carried off by well-marked pyæmic infection.

In a general way I should say that women suffering from these severe forms of chronic chancroids and vulvar deformity, with all their dangerous concomitants, live from eight to fifteen years; an average of ten years, I think, is quite constantly observed.

I shall treat of chancroids in syphilitic women in the following section.

It is important to remember that, though we use the term chronic chancroid, very many of the so-called ulcers do not present the typical and classical appearance of these lesions when of recent origin. Indeed, the term as applied to ulcers about the vulva is one of great elasticity, since almost any good-sized intractable ulcer is thus denominated. These ulcers present wide variations, since they may appear like ulcerated excoriations, they may present resemblance to the classic chancroids, and they may be covered with a greenish-brown or grayish-black film, or even with a layer of tenacious necrotic tissue. Their edges very frequently present nothing pathognomonic, and their secretion of pus and pus combined with molecular detritus, and even blood, will be offensive to the nose in proportion as patients are uncleanly and untreated. Some authors have laid much stress on the odor of the secretions in these cases of vulvar hypertrophy, but my experience teaches me that it conveys nothing of diagnostic import, but that all secretions are exceedingly disgusting in unclean persons.

In many instances the origin of these ulcers in a contaminating coitus is readily ascertained, while in others they seem to develop *de novo*. The truth of the matter is that in all cases of vulvar hypertrophy, particularly in the succulent stage, ulceration is liable to occur as a result of irritation or traumatisms of all kinds, and that they are probably caused by micro-organisms, which find a nutrient nidus in chronically inflamed tissues. Case IV will illustrate the point admirably. The woman left the hospital healed as to her ulcers, but still the victim of hypertrophy, which in the deep parts of the vulva was yet in the succulent stage (and these parts are the ones always most prone to ulceration). A subsequent chancroidal infection was not absolutely necessary to develop in her so-called chancroidal ulcers. In the inflamed and hyperplastic state of her genitals any cleft, fold, or anfractuosity was liable to fall into ulceration, as a result of uncleanliness, of any vaginal discharge, and from the irritation of the system induced by a debauch or by poverty.

In some cases we find hypertrophy precede ulceration, and in others chronic ulceration to lead to hypertrophy. As a general rule, however, hyperplasia is by far the more active and the ulcerative the less prominent process. It is remarkable to observe the great chronicity and indolence of these vulvar ulcers. They, as a rule, increase very slowly, and may remain many months, and sometimes one or two years, without any perceptible change. In these cases, however, the hyperplasia goes on more or less actively. The reason for the slow and indolent growth of these lesions lies in the fact that the condensation of the hyperplastic tissue offers, chiefly by its narrowing of the blood-vessels, a not soft and succulent soil for the destructive process.

The inguinal ganglia in these cases are usually somewhat enlarged and sometimes much swollen. In some cases no change is noted in them, consequently they are not of much aid in diagnosis.

In the following section we shall see that in recent and old syphilitics chronic ulcers, which we also call chancroidal, may give rise to great hyperplasia of the vulvar tissues.

Hypertrophies of the Vulva due to Syphilis.—In the causation of vulvar hypertrophies, syphilis is a very important factor, and it becomes our duty to define its scope and its limitations. There are a number of surgeons who, repudiating a lupous origin of these deformities, are disposed to attribute them very extensively, if not quite exclusively, to syphilis. This is well shown in the remarks made by an eminent English surgeon in the discussion of Dr. Matthews Duncan's cases, in which he stated his belief that they were caused by tertiary syphilis. Now we shall see that syphilis is frequently the direct and also the remote cause of vulvar hypertrophy and hyperplasia, and to this end I shall briefly present a series of cases which I think are examples of all the syphilitic deformities of these parts.

Vulvar Deformities in the Early Stages of Syphilis by Indurating Œdema.—In some exceptional cases the initial sclerosis occupies a whole labium and much enlarges it. In a decided number of instances we find that accompanying the initial lesion, either around it or in its vicinity, a hard œdema of one labium or both labia occurs. This œdema, which has been called sclerotic or indurating, is very peculiar and is the sole appanage of syphilis. It usually begins in an indolent aphlegmatic manner, without pain, and perhaps with no heat and pruritus, and becomes fully formed in from one to three weeks. Then again, in some cases, its onset is quite brusque and rapid, and in a few days a labium may be greatly enlarged. When such a labium is examined it will be found to be of double, even quadruple, its normal size. Its tegumentary covering may be normal in color or a little redder than usual, while its mucous membrane is of a dull red. In some cases the corresponding labium minus may be affected, and its pinkisk-red color is then somewhat increased. There is no evidence of inflammatory engorgement, nor of œdematous swelling. The parts are not unusually hot, not tender on pressure or otherwise as a rule, but they are of an extreme hardness, sometimes presenting a dense elasticity, like one's ear, and again a stony feel, like cartilage or sclerodermatous tissue. The impress of the finger always meets resistance. It may be that the whole labium or the labia (if both are involved) may be thus uniformly sclerotic, or, as it often happens, there may seem to be a central kernel of great density surrounded by an atmosphere of elastic firmness. In uncleanly women, during pregnancy, and as a result of traumatism, this indurating œdema may extend beyond the labial limits. Well-marked secondary symptoms are constant concomitants. This form of indurating œdema, following a hard chancre, is very well shown in Fig. 8. Its history is as follows:

CASE VI.—E. C., aged twenty-six, had a hard chancre on the left of the fourchette which lasted two months. Before it finally disappeared she noticed that the left labium majus slowly and painlessly swelled. As this enlargement was going on, an erythematous and papular eruption appeared over the body. These lesions were quite abundant about the genitalia and they are indicated in the dark spots scattered over the parts in the figure. By means of active treatment, general and local, the swelling of the labium was dissipated in three months. After that the woman continued antisyphilitic treatment for nearly a year, and then thought herself well. About two years after her infection she observed that the labia minora became larger and were pushed out between the external parts. She at that time had seen no evidences of syphilis for a full year. The hypertrophy of the nymphæ went on slowly, and in eight months they presented the appearances seen in Fig. 12. They are of many times their normal size, of very firm elastic consistence, of a pinkish hue, and nodulated and lobulated on their surface. The deep parts of the vulva were of a redder hue than normal, but not the seat of ulceration. The perineal rhaphe was thickened and a round lobulated mass of hyperplastic integument jutted from the anterior margin of the anus. The patient showed no perceptible evidence of syphilis, and the ganglia, which in the early stages had been markedly enlarged, were scarcely to be felt. In every respect the vulvar lesions were like those of the simple variety shown in Cases I and II.

The interesting point regarding the infiltrating œdema in this case, besides its typical history, was its amenability to antisyphilitic treatment. In many cases this form of œdema is very persistent and is frequently refractory to internal specific medication. Local mercurial treatment, combined with great cleanliness and antisepsis, very often is of decided benefit.

The next form of infiltrating œdema is well shown in the following case, from which Fig. 9 was taken:

Case VII.—K. C., aged twenty-four, had a small and ephemeral initial lesion at the base of the left labium minus. After it had healed she noticed that her genitals became redder than normal, particularly on the left side. At the regular evolution of secondary manifestations a linear series of condylomata lata showed themselves on the inner surface of the left labium majus. As these lesions grew in size and age she noticed that the corresponding large lip gradually and painlessly grew larger until it became three times the size of its fellow. Upon examination, I found no heat or sensitiveness, but a condensed, unyielding labium, which protruded markedly downward and outward and presented great deformity. The outlines of the superimposed condylomata are well shown in the figure. In the vulva there was much redness of a dull type and no ulceration.

This case, therefore, shows in an admirable manner infiltrating œdema accompanying secondary lesions—a form which is far from uncommon. I recently saw an instance of it in which the right labium majus was enlarged nearly to the size of a man's fist. In proportion to its size it is rebellious to treatment, and always requires local antisyphilitic treatment.

Though indurating œdema is more commonly seen in the primary and early secondary stages of syphilis, it may occur later in the disease—namely, in the first, second, and even third years. In these cases of late development, however, there is commonly a marked persistence and activity of the diathesis. While the indurating œdema of the primary and secondary stages of the disease usually accompanies or follows the active lesions, that of the later periods may be unaccompanied by any previous or present syphiloma. Though, however, late œdema may be thus complicated by various syphilitic processes, it very often is developed by vaginal or vulvar irritation, and also by traumatism.

The later form of indurating œdema is portrayed in an admirable manner by Case VIII, from which Figs. 10 and 11 were taken.

Case VIII.—K. R., aged twenty-five, was in my service in Charity Hospital in the winter of 1882 and 1883. Three years before admission she became syphilitic, and received little if any proper treatment. Though in the third year of her disease, she still presented a fading papular eruption and marked generalized adenopathies. She also had a persistent vaginal discharge, with some chancroidal ulcers in the vulva. Six months before admission she was kicked in the genitals by her husband. After the pain incidental to her bruise had subsided she noticed that her nymphæ grew large gradually and painlessly, until they presented the appearances shown in Figs. 10 and 11. The left labium minus was markedly swollen, and looked as if it contained a testis in its substance, while the right one was irregularly and less enlarged. The color of these morbid nymphæ was a deep and slightly purplish red. In consistence the left one was as hard as cartilage, while the right one was very firm and elastic. The inner surface of these indurated labia is shown in Fig. 11 to be nodulated and papillated. The hardening process ended abruptly at the bases of the nymphæ. In the vulva was a so-called chancroidal ulcer. The internal and local use of mercury caused slight softening in the induration. The woman would not consent to excision of the parts.

In this case the indurating œdema had its origin in the bruise of the nymphæ, the woman being in the active power of the syphilitic diathesis. It is probable that the vaginal discharge may have been a moderately accessory factor. The chancroidal ulcer was in this case scarcely to be considered as a factor in causation. This form of indurating œdema is much less common than the earlier forms, and it may also be seen on the lips and the prepuce. Typical syphilitic inguinal adenopathy is observed as a rule in these cases.

In general, all forms of indurating œdema are far from being well understood by the profession, and precise notions are not extensively held regarding the late form. As an instance of the lamentable ignorance which exists concerning this late indurating œdema, I may say that one of my cases has recently been published by a former interne of Charity Hospital as an example of *fibroma diffusum.*

Late lesions of syphilis in the vulva may be complicated by surrounding œdema.

The foregoing are the essential, and I may say direct, forms of syphilitic hypertrophy of the vulva, and we now come to the study of the more remote forms.

We frequently find in early syphilis and in later periods when the diathesis is active, and again when it is waning, ulcers which appear *de novo*, and from tradition we call them "chancroids." It is to-day a generally accepted fact that chancroidal ulcers are caused by many forms of active pus, and that syphilis is a frequent cause of the secretion which gives rise to these ulcers. There undoubtedly exists in syphilitics a vulnerability of the tissues, showing itself in their tendency to ulceration and hyperplasia. About the female genitals this tendency is shown in the development of chancroids upon parts irritated by uterine, vaginal, and vulvar secretions, and especially upon any lesion of continuity, such as an excoriation, a tear, a fissure, or upon the seat of vesicles. In their early stages these ulcers may resemble the classical chancroid, but as they grow older they lose more or less of their physiognomy. Since these ulcers play an important part in the causation of vulvar deformities, I have thought it worth while to present a very graphic representation of them, taken from one of my cases, in which also well-marked syphilitic new growths near the anus are portrayed.

In the chromo-lithographic picture are seen just within the vagina and in the recesses on each side of the urethra two so called chancroids. The one on the right has extended outward and downward, and, when the parts were not separated, was scarcely visible. The one on the left runs parallel with the urethra, and, when the parts were in place, could not be seen. This secluded and hidden situation is not an uncommon one for these ulcers, and they are very often overlooked by untrained observers. It will be seen that the ulcers have sloping edges and fairly smooth bases which are covered with a greenish-gray film of pus under which is a slightly papillated surface. They look indolent and their history proves that in general they are aphlegmasic, persistent, and chronic. They occur on all parts of the female genitalia and may remain without any perceptible extension for a long time, but yet they frequently cause great harm. As long as they remain they give rise to a very low grade of secondary inflammatory engorgement which leads to hyperplasia, which may extend up the vagina or into the vulva, thickening the vaginal and often the rectal walls, attacking the labia minora by preference and causing their great hypertrophy, and also sometimes inducing similar change in the labia majora. All of the clinical features of the vulvar hypertrophies which result from chronic chancroids may be produced by these chancroids of syphilitic origin; therefore, having already described them, repetition is unnecessary. It, however, may be added with advantage that where the syphilitic diathesis is active, and often even when it is waning, specific evidences of the disease may be seen elsewhere upon the body. The hypertrophies produced by these syphilitic ulcers are similar to those of simple chancroids, except that we sometimes see a greater tendency to destructive ulceration, and in some cases to phagedæna. Though the clinical features of chancroidal and of this form of syphilitic sequelæ are hardly sharply enough drawn to warrant separate descriptions of their respective hyperplasia, the underlying facts must be stated, and this necessitates the division I have made. Hypertrophy of the vulva, therefore, depending on simple hyperplasia from chronic ulceration in syphilitic patients, is far from uncommon.

This brings us to the consideration of a condition of the tissues in older syphilitics, and usually in persons of the lower classes, which has not, according to my reading, been described by any author, but which, I am convinced from years of study, is quite common, about the genitals of women particularly.

This condition consists in a simple hyperplasia of the tissues of the genitalia, which results in more or less deformity. While early in the disease we so commonly see the tendency to ulceration, later in the diathesis it seems to ingraft on these tissues a tendency to a very low grade of inflammatory process by which organs and parts are much thickened and distorted. This hyperplasia in syphilitics is microscopically the same as that of non-syphilitics, and can not in any sense be considered as an essential evidence of the disease. A very clear idea of this remote effect of syphilis is given in the histories of the cases which follow.

Fig. 12 shows the condition, two years later, of the labia minora, clitoris, and circum-anal region of the woman whose history was given in Case VI, Fig. 8. She recovered from the indurating œdema of the vulva, and under treatment the evidences of syphilis were dissipated, yet, from the hyperæmia left by the early syphilitic lesion, later on a tumefaction of the vulva occurred which eventuated in the hypertrophy of that part in the manner shown in Fig. 12. Examination of the parts proved conclusively that the hyperplasia of the tissues was precisely the same to the eye as that found in non-syphilitics, and its clinical history was similar. Certainly, had I not known the woman's history, I should not have been reminded of syphilis at all by the condition of her vulva.

In the next case the woman had reached her fourth year of syphilis, when, as a result of elytritis and gonorrhœa, the tissues of the vulva and vagina became the seat of a very low grade of indolent inflammation which led to hyperplasia and hypertrophy.

Case IX. *Extensive Hypertrophy of both Labia Minora, the Clitoris, the Labia Majora, and the Introitus Vaginæ, with Chancroidal Ulcers.*—S. A., twenty-eight years of age, married, a seamstress, large and fleshy, contracted syphilis when twenty-two years old. She suffered severely in the secondary period and had very little treatment. In the fourth year of her syphilis she suffered from gonorrhœa for several months. After recovery from this she noticed that her vulva was swollen and painful. During the two years following she had several attacks of vulvar and vaginal inflammation, and in this period she noticed the swelling of the outer parts of her genitals. During the last three years she has been several times in Charity Hospital. In the sixth year of her syphilis (early in 1889) I noted the following condition of her genitalia: The left labium minus is very greatly increased in length and thickness, the clitoris and its prepuce are very much hypertrophied, and the right labium minus (which was originally much shorter than its fellow) formed a long, fleshy process, which hung down nearly two inches between the thighs. The appearances are well shown in Fig. 13, the hypertrophied growths being brought into prominence by means of threads. The mucous membrane of these parts was somewhat thickened and similar to integument. The whole mass was of a deep violet or purple-red color. At the base of these tumors were three shallow ulcers which might be taken for chancroids. Eversion of the hyperplastic nymphæ showed a thickened, violaceous condition of the whole vulva, with a decided narrowing of the vaginal orifice by reason of the thickening of the tissues, which extended upward about three inches. The orifice of the urethra was obscured by a cluster of hypertrophied caruncles. The labia majora were also enlarged and swollen, and the very short perinæum ended in a tab-like mass of integument, seated just on the anterior border of the anus, but not encroaching upon it. From the stenosed vaginal orifice a copious persistent discharge escaped. The hypertrophied nymphæ presented a firm resistance to pressure, and the tissues of the vulva, though rather more dense than normal, were, as we may term it, in a succulent condition from the hyperæmia. The ulcerations were rather superficial, of brownish-red color, smeared with pus, smooth of surface, without well-defined outlines, and their margins devoid of any appearance of being undermined. There was little or no pain in the outer growths, though the vulva was rather tender, and sometimes, when irritated, the seat of a stinging, smarting, and itching pain. The sufferings of the patient, however, did not seem to be at all proportionate to the severity and extent of the morbid process. She had at times been treated energetically with anti-syphilitics with no effect whatever. I ablated the external tumors, greatly to the relief of the patient. Later on, hot antiseptic injections and appropriate topical treatment cured the ulcers and lessened the vulvar hyperplasia. The woman left the hospital much improved and contented in mind.

It is interesting to remark that during the three or more years in which the vulvar hyperplasia was going on in this women, the victim of old and untreated syphilis, she suffered very little from the local affection. The progress of its development was slow, aphlegmatic, and unattended with any constitutional reaction. Microscopical examination of the removed masses showed that their structure was identical with that of hyperplasia occurring in non-syphilitic women.

Case X.—A still later evolution of this hyperplasia is shown by the following case: X. X., an American, aged thirty-two, a cook, became syphilitic when twenty-two years old. She suffered severely from multiform manifestations of the disease for four years, during which she followed treatment indifferently. Seven years after infection, not having suffered from any manifestation, nor having presented any evidence of the disease for three years, she, after an attack of elytritis, observed that her vulva became gradually swollen. This hypertrophy went on for three years, when it presented the appearances shown in Fig. 14. At this time she became much debilitated and took stimulants and opiates. While she was in this state ulceration began in the vulvar ellipse and destroyed considerable of the hyperplastic tissue. Having built her up with tonics and generous diet, and nearly cured the ulcers, I removed the hypertrophied masses and obtained a very favorable result from cicatrization. Microscopic examination of the new growths showed simple hyperplasia.

When the genitals are the seat of this hyperplasia in non-syphilitic women ulceration may occur, but it is commonly limited in extent and not very destructive in tendency, though from the nature of the parts such damage may be done in these cases as will lead to invalidism and death. In chronic chancroid the ulcerative tendency is sometimes well marked and even quite destructive. In syphilitic subjects with these hyperplasiæ the acme of disintegration is often observed. In them, as a rule, the ulcerations are more active and extensive than in non-syphilitics. Not only do we find severe ulceration in the syphilitic subjects, but also phagedæna, which may cause terrible destruction of the affected parts. This complication is well shown in Fig. 15, of which the history is as follows:

Case XI.—A. M., aged forty-seven, had had for years great hyperplasia of the vulva, following syphilis contracted ten years before. When she was in a dissipated and woe-begone condition, ulceration began about the fourchette. This lasted several weeks, and then the parts began to melt away from phagedæna with the result depicted in Fig. 15. Under treatment, healing was induced, cicatrization took place, and a fairly good condition of the parts was left, incontinence of the fæces being the most distressing symptom.

In Fig. 16 is well shown the appearance of an hypertrophied clitoris (posterior surface) which many years ago was for a time under my care, and which was removed by Dr. Bumstead. It had begun in a woman some years after syphilitic infection, as a simple hyperplasia, and ended in the full development as a fibro-cellular hypertrophy presenting a condition which approaches a diffuse fibroma. It shows in an admirable manner the tuberculations and lobulations seen in these new growths.

Nothing positive can be stated as to the condition of the inguinal ganglia in these cases of hyperplasia in old syphilitics. In some cases they are imperceptible, and in others, particularly when ulceration also is present, they may be more or less swollen. The adenopathy is more extensive, but with less density, than in early syphilis.

There is no doubt in my mind that the ninth case of Huguier's memoir, which he labels *esthiomène hypertrophique œdémateux et végétant*, is one of simple hyperplasia of the vulva in a distantly syphilitic woman.

Desruelles, who first reported this case and assigned syphilis as its cause, was convinced by Huguier that it was not syphilis for the reason that appropriate treatment had no effect upon it whatever. Huguier thought, as many have thought to this day, that syphilis only produced lesions which we may call essential; he did not know that in the wake of that disease simple hyperplasia might follow, depending upon it for causation, just the same as upon any simple irritative process, such as vulvar or vaginal inflammation, irritations, and traumatisms.

Several other cases of Huguier's are excellent examples of simple hyperplasia in old syphilitics. His sixth case is in all probability one of simple hyperplasia, following or complicated with perineal abscess, yet he considers it an excellent illustration of "*esthiomène perforant de l'anus et de la vulve.*" His seventh case is either a fungating growth, following perineal abscess, or a malignant new growth; more probably the former. And so on to the end of the chapter.

Dr. I. E. Taylor's fifth case (brochure of 1888), which he calls *perforating lupus*, bears intrinsic evidence of being an instance of inflammatory hyperplasia of the vulva following laceration of the perinæum and resulting in procidentia recti. If the woman was not remotely syphilitic, the case may be taken as an example of what we sometimes see—namely, the hypertrophy of the vulvo-anal region following injury in parturition, the torn parts becoming chronically inflamed and the starting point of hyperplasia and its sequelæ.

The ultimate outcome of hyperplasiæ of the vulva in old syphilitics is about the same as that already sketched of the declining days of patients suffering from chronic intractable chancroids of that region.

The chronicity and inveterate course of these vulvar hyperplasiæ were undoubtedly due to the structural peculiarities of the vulva, to its excessive vascular and nervous supply, to the conditions to which it is so constantly subjected, and to its dependent position compressed between the thighs. Except in the mouth (and that very rarely) we do not see such persistent and deforming low-grade inflammation and hyperplasia.

Summing up, therefore, the inflammations and infiltrations of the vulva of non-malignant origin, we can include them in the following categories:

1. Small hyperplasiæ, caruncles, and papillary growths.
2. Large hyperplasiæ and hypertrophies.
3. Hyperplasia resulting from acute and chronic chancroids.
4. The various forms of hypertrophy induced by the indurating œdema of syphilis.
5. Hyperplasia resulting from chronic ulcers, the so-called chancroids, in intermediary and old syphilis.
6. Hyperplasia in old syphilitics, presenting no specific character, and occurring soon or long after the period of gummy infiltration, in some cases being coexistent with specific lesions elsewhere.

The foregoing affections have neither in their clinical history nor their pathology any resemblances to lupus, nor do they partake in any manner of the nature of lesions produced by tubercular infection.

In the last periods of many cases in which ulceration and destruction are very great, evidences of pulmonary phthisis may be seen, but my observation convinces me that the tuberculous infection does not occur through the genitals, but in the lungs of women worn and spent with disease. Many authors, particularly the French, have laid stress on the point that these vulvar lesions are the outcome of scrofula.

Some patients are more prone to inflammation and irritation than others, and they may become the subjects of vulvar hyperplasia. I have not been led to look upon a dyscrasia as an underlying cause of any moment in any non-syphilitic cases. In my experience the vulvar troubles begin when the women are well, and ill-health overtakes them when the hypertrophies have led to ulceration, fistulæ, deep abscess, fissures, and to strictures of the urethra and rectum and stenosis of the vagina.

In this connection I must say a word of tuberculous ulcers of the female genitals. It may be stated as a broad fact that tuberculosis of the female genitalia grows progressively more uncommon in occurrence as it descends from the ovaries, the tubes, and the uterus into the vagina and vulva. Tuberculosis of the vagina by extension of the process from above is hardly to be called very rare. Involvement of the vagina alone is far from common, and when it does occur in some cases the vulva may be more or less involved. Primary tuberculosis of the vulva is rare, and the most satisfactory case of it on record is that of Deschamps. Zweigbaum's case has been spoken of as being rare and peculiar. It is rare in the sense that tuberculosis of the female genitalia is rare. The details of it show that the morbid process began in the uterus and extended downward to the vulva. Chiari's case also seems to have been one of tuberculous infection of the vulva.

I have seen three cases in which ulcers began just beyond the external genital regions and in their extension involved the vulva. They had finely granular, coarsely granular, papillomatous, and even fungating surfaces, and were encircled by hard, somewhat everted edges, and secreted an abundance of pus. They began as round or oval, deep, even violaceous red tubercles, which soon broke down into ulceration. In former days we classed these lesions under the head of *scrofulide tuberculeuse ulcéreuse*, proposed by Hardy and Bazin. Two of my cases occurred before we knew of the existence of the *Bacillus tuberculosis*, while from the third and more recent case I was unable to excise a portion of the morbid tissue for examination. The patient, however, had pulmonary phthisis.

My studies and observations, therefore, convince me that vulvar ulcers (not hyperplasiæ or hypertrophies) may be very rarely caused by tuberculous infection, and that they should be included in our classifications. *If it is hereafter established beyond all question that lupus and tuberculosis of the skin are wholly identical in their nature and clinical history, we shall then have to admit that there is a lupus of the external female genitals. In the mean time we can content ourselves with the thought that what has heretofore been considered lupus on these parts is not lupus at all.*

MICROSCOPICAL EXAMINATION AND PATHOLOGY.

*Case I.**—This does not show the initial stages of the process by which the vulvar growths in the succeeding four cases have arisen, but it shows very well the earlier stages of this process. The specimen was a small, white, smooth-surfaced elliptoidal nodule (5 by 3 mm. in diameter), and was rather soft and yielding, like the finger-tip of a new-born child. (The specimens from all of the cases were hardened in strong alcohol, stained double with hæmatoxylon and eosin, and studied with a Zeiss one-twelfth oil-immersion lens.)

The *changes in the epidermis* are of a very moderate degree and consist of a slight deepening of the interpapillary portions and of a thinning here and there of the portions of the epidermis over the apices of the papillæ. Several of the prolonged portions of the rete mucosum are incompletely invested by sheaths of small rounded or polygonal cells. In such places the lowermost cells of the rete do not appear as a distinct row, and can not be distinguished from the adjacent polygonal cells of the papillary derma.

In the *derma* there are changes in the *blood-vessels*, in the *lymph spaces*, and in the *connective-tissue cells.* The endothelial cells of the capillaries, smaller arteries, and veins are uniformly swollen and granular, and project into the lumen of the vessels (Fig. 17). There are also swelling, granulation, and alteration of the shape of the cells corresponding in position to the adventitia of some of the blood-vessels, yet it is very difficult to determine in the sections whether these cells really belong to the blood-vessels or to the surrounding connective tissue. Some of the lymph spaces are dilated and their endothelial cells are changed in the same way as in the blood-vessels.

The connective-tissue cells are greatly increased in number and are altered in shape. Their cell bodies and branch-

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* The cases furnishing the morbid tissues are mainly those detailed in the text, but others have been used also for microscopic purposes. The numbering of the cases in this section is not in any way connected with the numbering of those given in the clinical part. They were selected with a view to tracing the progress of the development of the new tissue step by step.

ing processes are granular and swollen so that they completely fill up the interfibrillary spaces in which the normal connective cells lie (Fig. 19, compare with Fig. 18, showing the normal connective-tissue cells from the vulva). The connective-tissue cells are everywhere in a condition of proliferation, and there are very many small, rounded, and polygonal cells (Fig. 3, *d*) which seem to be derived from the proliferating connective-tissue cells, for intermediate stages between the slightly swollen connective-tissue cells and the polygonal cells are present (Fig. 19). There are also a few giant cells (Fig. 20) filling up the interfibrillary spaces of the derma, and are apparently phases of the proliferation of the connective-tissue cells, because transitional forms in the development of these giant cells from the connective-tissue cells were observed (Fig. 19, *b*, *b*, *b*, *c*). These giant cells are probably formed by a modification of the indirect cell-division process, in which the nucleus of a given connective-tissue cell segments while the protoplasm does not segment, but remains intact, surrounding the group of new nuclei.

The majority of the altered connective-tissue cells lie scattered about diffusely in the derma and are so numerous that they lie very close together and are often in contact with each other. Here and there the changed connective-tissue cells are aggregated in clusters situated quite uniformly in the vicinity of the blood-vessels. In these clusters the fibers of the stroma have been separated by the growth of the cells, a portion of the stroma has disappeared, and the small polygonal cells (Fig. 20, *d*) composing the clusters are separated by a scanty, delicately reticulated basement substance. No leucocytes or other evidences of exudation were found in these perivascular cell clusters. Possibly the element of increased nutrition of the connective-tissue cells about the blood-vessels may account for their more active proliferation in this region and for the formation of the perivascular clusters. Perhaps the proliferation of the connective-tissue cells of the adventitia of the vessels may also contribute toward the formation of these perivascular clusters.

Besides the changed connective tissue cells and their apparent derivates, the small polygonal cells (Fig. 19, *d*), there are other different cells quite profusely distributed through the sections. Some of these are narrow spindle-shaped cells with homogeneous shining extremities; others have long filamentous bipolar processes which are often bifurcated and branching (Fig. 26, *x*). Most of these cells are isolated, but in places several of them are grouped together in short slender strings with their long axes parallel. These cells are fibroblasts. Most of them are older forms of the progeny of the connective-tissue cells, and, tending to reproduce forms like their ancestors, may form new connective-tissue cells and new connective-tissue fibers.

Recently the life history of these fibroblasts has been very accurately studied in pathological processes and their significance made clear (Ziegler, "Die Entzündung u. die Entzündgewebebildung," "Lehrb. der. path. Anat.," Band 1, 1889). The youngest forms of the fibroblasts are identical with the small polygonal cells (Fig. 3, *d*). The young fibroblasts then lengthen out into spindle-shaped cells. Then the extremities of the spindle-shaped cell lengthen out and become fibrillated so that the fibroblast approaches gradually the shape and character of a fibrillated connective-tissue fiber (Fig. 26, *x*). In other young spindle-shaped fibroblasts fibrillæ grow out of the extremities and sides of the cell, and these, fusing with the fibrillæ and extremities of neighboring fibroblasts, become converted into fibrillated connective-tissue fibers, while the nucleus and some of the residual protoplasm of some of the fibroblasts persist and form a fixed connective-tissue cell lying on the surface of a bundle of newly formed connective tissue. Not all of the stages in the life history of the fibroblast could be observed in these cases, but in Case I the middle stages, and in Case IV (Fig. 26) the later stages could be well observed. Some of the cells shown in Fig. 3 are early forms of the fibroblasts.

Congestion and exudation are almost if not quite entirely absent in this case.

Case II.—This case illustrates a slightly later development of the same process as in Case I. The nodule is somewhat denser and larger (one centimetre in diameter) than in Case I, and its surface is slightly corrugated by shallow furrows running in different directions.

The *epidermis* is normal in places. In other places it is irregularly thickened and thinned. In the thinned places the horny layer is thicker than elsewhere, and the lower rows of cells of the rete mucosum are intermingled with the small round and polygonal cells of the underlying pars papillaris.

The lesions in the *derma* consist of changes in the blood-vessels, lymph spaces, and connective-tissue cells of the same character as described in the preceding case. The proliferated connective-tissue cells are arranged diffusely (Fig. 21) or in isolated clusters, as a rule, about the blood-vessels.

In this case there are areas of new connective tissue formed by fibroblasts (Fig. 21, *c*, *c*)—progressive forms of cell development from the derivates of the proliferating connective-tissue cells to new fibrillated connective tissue, and new fixed connective-tissue cells. There are also numerous giant cells in the interfibrillary spaces of the derma of the same nature and origin as in the preceding case (Fig. 20).

A few of the clusters, composed of small rounded or polygonal cells (similar to the cells shown in Fig. 19, *d*), contain one or more giant cells in their centers (Fig. 22). Although these giant-celled clusters look a little like tubercle granula, yet they do not, upon close examination, show any of the more definite morphological characteristics of tubercle granula. (No tubercle bacilli were found. Central coagulation necrosis absent. The clusters are not sharply outlined, and have no surrounding inflammatory zone of small round cells.) The giant-celled clusters are simply one of the phases of the proliferating connective-tissue cells.

Case III.—This case illustrates a stage of the same process, in which the development of new connective tissue by the fibroblasts has gone on to a very considerable extent, so that a large (three and a half to four ctm. in diameter), irregularly nodular, rather dense mass grew on the vulva by a broad base, and was lobulated by three or four deep crevasses. Its surface was finely corrugated by shallow, irregular furrows.

The *epidermis* is normal.

The condition of the blood-vessels resembles that in the previous specimen. The lymph spaces in places contain granular material. The polygonal cells are not arranged diffusely as in the first two cases, but are disposed in not very sharply outlined clusters and strings about the blood-vessels (Fig. 23). There are no evidences indicating the exudative origin of these clusters; on the other hand, they are composed of cells which look as if they were derived from the connective-tissue cells either of the connective tissue of the skin or possibly of the adventitia of the vessels. Some of these clusters (Fig. 23, *b*, *b*, *b*)—from four to six in thin sections, 12 mm. in diameter—contain one or more centrally situated giant cells (Fig. 24). These giant-celled clusters do not show the structural features of tubercle granula, and, as in the preceding case, seem to be phases in the proliferation of the connective-tissue cells.

This case contains comparatively fewer proliferated connective-tissue cells and more newly formed connective tissue than in Case II. The distribution of the new connective tissue and the relation of the changed connective-tissue cells is shown in Fig. 23. The new connective tissue contains many fibroblasts in late stages of development and a few giant cells in its interfibrillary spaces. (It is possible for these isolated giant cells described in these cases to form a brood of smaller cells by constrictions of the protoplasm about the individual nuclei, and then by a separation of the young cells from the giant cell.—Toldt, "Lehrbuch d. Gewebelehre," chap. i, 1888.)

A new feature in this case is the invasion of the newly formed connective tissue in two or three places by an inflammation with the production of granulation tissue (Fig. 23, *a*). This granulation tissue occurs in patches just beneath the epidermis. Some of these patches have an apparently definite relation to the deep crevasses spoken of in the description of the gross appearances, and are centered about the lips and walls of these crevasses. This granulation tissue resembles in structure the ordinary granulation tissue of wounds, and contains no bacteria or tubercle bacilli.*

Case IV.—This illustrates a stage in the same process observed in the preceding cases in which the vulvar growth is almost entirely composed of new connective tissue, containing very few proliferating connective-tissue cells (Fig. 25). The gross appearances are very much the same as described in the preceding case, except that the mass contained several soft, reddish, superficial patches (two to seven mm. in diameter), corresponding to the places where the growth was invaded by granulation tissue.

The new connective tissue is loosely arranged, and consists partly of completely formed fibrillated fibers and partly of the interlacing processes of the fibroblasts (Fig. 26). The interfibrillary space contains a few giant cells, and here and there some granular material (Fig. 26).

In several places this newly formed connective-tissue mass has been invaded by an inflammation with the production of granulation tissue. In spots the epidermis over the patches of granulation tissue was disintegrated, so that minute ulcers have been formed (Fig. 27).

Case V.—The growth originating in the clitoris region is spherical (about 1½ cm. in diameter), and its surface is perfectly smooth. The growth in the labium majus is diffusely arranged and the epidermis is smooth.

The structure of this growth is entirely analogous to Case IV, except that no patches of granulation tissue were found in the sections.

Résumé and Conclusions.—In the first case there is, hand in hand with the proliferation of the connective-tissue cells, a development of fibroblasts from their progeny, and a subsequent formation of new immature connective tissue from the fibroblasts, so that the size of the nodule depends partly upon the multiplication of the connective-tissue cells and partly upon the presence of the immature new connective tissue. In the succeeding four cases the new connective tissue produced in this way becomes more mature and more extensive. Since the fibroblasts may themselves proliferate (Ziegler, *loc. cit.*), as more and more fibroblasts are produced, fresh increments of new connective tissue result, and the nodule grows larger and larger.

After these growths attain a certain size, from their situation, where they may be subjected to pressure, chafing, irritating discharges, etc., an inflammation with the production of granulation tissue is liable to occur, as in Cases III and IV.

This process, described in the first five cases, is a form of inflammation with the production of new connective tissue, while congestion and exudative products are almost if not entirely absent, and is termed *chronic productive* or *chronic cellular inflammation.* Productive inflammation in mucous membranes and transitional cutaneous mucous membranes produces a new growth of connective tissue in the stroma, occurring diffusely or in the form of nodular polypoid outgrowths. A characteristic feature of this form of inflammation is its slow development and its tendency to persist for a long time. These general characteristics of productive inflammation agree very well with the clinical history and physical properties of the vulvar growths in the five cases examined microscopically.

The foregoing description applies only to the anatomy of simple hyperplasiæ, which have thus been traced through all periods of their development and course. But it must be remembered distinctly that hyperplasia in old syphilitic subjects presents precisely the same pathological appearances as in non-syphilitics. My aim in this essay has been to clear away all the darkness that has obscured these vulvar lesions, by showing that the majority of them are in no way specific or lupous in their nature, but that they are simple hyperplasiæ which, owing to their situation, have undergone various changes. I have not attempted to portray the pathological anatomy of any of the syphilitic new growths, since that has been done by many, and it was not essential to the scope of this essay.

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* I wish to make it clear that the isolated giant cells in the first four cases and the giant cells in the clusters in Cases II and III are not characteristic of any pathological process, that they are not of tubercular origin, and that they have no special significance beyond indicating a modification of the indirect cell-division process. It is desirable to have these points understood, because the pathology of this field (Cases I to V) of vulvar lesions is very obscure. Some observers have described the appearances in the sections of an isolated case well enough, but have failed to trace out the process producing the growth. Others —apparently from the occurrence of just such structures as these giant cells and giant-celled clusters, produced by an ordinary chronic cellular inflammation of the skin—have been led to make the diagnosis of lupus, lupoid degeneration, and esthiomène. It is a waste of time to try to make out what pathologists meant by lupus before the discovery of the tubercle bacillus, for the term was used too indefinitely. At present the term lupus among *pathologists* has a precise meaning—it is tubercular inflammation of the skin. It would be well for clinicians to use the term lupus, especially in the vulvar region, to designate tubercular inflammation only, and to classify the other vulvar lesions included under lupus, as far as possible, on a morphological basis.

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In the "American Journal of the Medical Sciences" for February, 1890, will be found a paper by me on a hitherto undescribed form of new growth of the vulva. It consists of a low grade of inflammatory affection, which ultimately destroys the parts through contraction and condensation of the tissues.

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Hypnotics.—The "British Medical Journal" says: "It is tolerably evident that none of the new hypnotics can be regarded as a perfect hypnotic, the chief fault being that no one of them is sufficiently powerful in action for certain cases. They induce sleep rather than compel it. The number of such chemical bodies which can be made is, however, practically limitless, and there is good reason for hoping that we shall ultimately obtain a hypnotic which will act as powerfully as chloral hydrate without exercising any depressant effect on the circulation."

THE HOUR AT WHICH DEATH MOST USUALLY OCCURS.

By JOHN FRANCIS BURNS, M. D.,
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A VERY general opinion is entertained by medical practitioners and others engaged in caring for the sick that the greatest number of deaths occurring in individuals afflicted with disease takes place during the hours immediately succeeding midnight and preceding the dawn. This opinion most probably originates in part from imperfect observation and partly from a misapplication of the physiological law governing the lowest period of vitality in the heathy individual. The rule is said to be particularly true in those suffering from chronic exhausting diseases, and deductions have been drawn from these impressions which have served to regulate the administration of stimulants in such cases, it being said, "if six ounces of whisky be needed in twenty-four hours, four should be administered from 2 to 6 A. M., for then is vitality in the human being at its lowest," and "more deaths occur at these hours than at any other period." Such expressions may be found scattered through works on materia medica and therapeutics, and in many of the text-books on the practice of medicine. The idea finds expression also in the lectures of teachers in our colleges, and usually leaves a well-grounded impression on the mind of the medical student, which is apt to remain a permanent one. I accepted this teaching at college because I had neither the means nor the time to verify or disprove it to my own satisfaction. Yet I always doubted the correctness of the conclusions drawn, and, to settle the doubt in my mind, since entering on my duties at the hospital, I have collected the statistics given below, which I find do not agree with this generally accepted idea. Thinking that they may interest others and that the small mistakes in a subject are sometimes, and to certain people, as important as the greater, I present them. The statistics are taken from the records of the Charity Hospital on the one hand, and from the books of the New York Board of Health on the other. The former are mainly of deaths occurring in those afflicted with chronic exhausting diseases; the latter, in those dying from the acute exanthemata. The former represents all the deaths at the hospital for a period of nearly ten years, irrespective of sex, age, disease, or condition; the latter, all the deaths occurring in the city and county of New York from the acute contagious diseases. At the hospital the records of death are kept with great care, and I am sure can be taken as a fair test. I have no doubt that the health authorities' records are also accurate, but they are the result of individual reporters, so that they are not so reliable as those of the hospitals. There are many circumstances that should greatly tend to increase the death-rate at night in a large public hospital, principal among which is the great vitiation of the atmosphere during this period. During the night all the patients are confined to the ward, and ventilation is apt to be neglected. This must certainly have a very depressing effect on those suffering with pulmonary affections, and on those in whom disease has effected extensive alterations in the physical and chemical characters of the blood. This alone should greatly tend to increase the number of deaths at night, and, if there was any truth in the accepted notion, the records should show quite a preponderance of deaths happening at night. The contrary is, however, the rule, the figures showing 27 cases fewer during the hours from 6 P. M. to 6 A. M. than for the corresponding twelve hours of the day. Again, from 2 to 6 P. M. there were 66 more deaths than from 2 to 6 A. M. The total number of deaths in the list of acute diseases for the twelve hours from 6 P. M. to 6 A. M. is 169 less than for the corresponding period during the day. The hours from 2 to 6 A. M. in this list show 53 cases more than for the corresponding period in the afternoon; this in nearly 4,000 cases is very slight. In the chronic cases the greatest number of deaths at any one hour was at 4 P. M., with 2 and 5 P. M. and 6 A. M. close following. The greatest in the acute list at 3 A. M., with 11 A. M. and P. M. close following. The lowest number in the acute list at 12 M. (midnight), that hour so dreaded in the sick-room by attendants, and to which a good deal of superstition attaches. It is noticeable that the number for this hour is exceedingly low—about half of the average number. In the chronic diseases the lowest number appears at 9 A. M. In the chronic cases the number dying from 9 A. M. to 12 M. (noon) seems relatively low compared with the same period in the acute list. I have used all the figures available at the hospital, and I only stopped when the death books available were exhausted. I only sought the health board's statistics for the purpose of comparison, and, as the figures run up quickly, I thought two records would serve as well as a longer period. In making the collections I noticed that the figures did not vary essentially throughout. There was always a preponderance of deaths in favor of the hours of the day, while the individual hours would vary by comparison at different periods.

Deaths occurring at Charity Hospital, Blackwell's Island, during the past ten years, by hours.

6 A. M. to 6 P. M.		6 P. M. to 6 A. M.	
6 A. M.	205	6 P. M.	187
7 "	178	7 "	187
8 "	180	8 "	181
9 "	138	9 "	197
10 "	165	10 "	165
11 "	169	11 "	172
12 noon	175	12 midnight	165
1 P. M.	178	1 A. M.	173
2 "	204	2 "	175
3 "	191	3 "	181
4 "	209	4 "	194
5 "	206	5 "	194
Total	2,198	Total	2,171

Difference in favor of the hours of the day, 27.

Deaths occurring in the foregoing table from 2 to 6 a. m. and 2 to 6 p. m.

2 to 6 A. M.		2 to 6 P. M.	
2 A. M	175	2 P. M.	204
3 "	181	3 "	191
4 "	194	4 "	209
5 "	194	5 "	206
Total	744	Total	810

Difference in favor of afternoon hours, 66.

Deaths from the acute contagious diseases for two years, reported to the New York Board of Health, by hours.

6 A. M. to 6 P. M.		6 P. M. to 6 A. M.	
6 A. M.	464	6 P. M.	474
7 “	386	7 “	430
8 “	420	8 “	369
9 “	434	9 “	411
10 “	450	10 “	420
11 “	512	11 “	502
12 noon	448	12 midnight	243
1 P. M.	436	1 A. M	479
2 “	428	2 “	434
3 “	436	3 “	506
4 “	493	4 “	499
5 “	482	5 “	453
Total	5,389	Total	5,220

Difference in favor of the hours of the day, 169.

Deaths occurring in the foregoing list from 2 to 6 a. m. and 2 to 6 p. m.

2 to 6 A. M.		2 to 6 P. M.	
2 A. M	434	2 P. M.	428
3 “	506	3 “	436
4 “	499	4 “	493
5 “	453	5 “	482
Total	1,892	Total	1,839

Difference in favor of early morning hours, 53.

From these 15,000 cases, extending over a period of twelve years, it would appear that death occurs seemingly without any particular predilection for any certain hour and that the number of deaths for each hour is very evenly proportioned considering the large number of cases taken and the time covered. The only very positive conclusions I have formed from the figures are: 1. That the idea that more deaths take place in the early morning hours is an erroneous one. 2. If stimulants are to be pushed in disease during these hours, the practice must be justified upon some other ground than to avert the possibility of danger supposed to be very probable at this period. 3. That the vitality of an individual in disease is not regulated by the same influences or subject to the same laws that govern the vitality of a healthy human being, the normal equilibrium maintained in health between the mental and physical states being altered.

Saline Hypodermic Injections in Post-partum Hæmorrhage.—In the Dresden Lying-in Hospital the plan of introducing a large quantity of a solution of common salt under the skin has been very successfully employed in several severe cases of post-partum hæmorrhage. The solution is of the strength of 0·6 per cent., and the quantity injected is a litre, or a little under a quart. The spots selected for the injection are the infraclavicular and the interscapular regions. During the progress of the operation the swelling produced under the skin must be manipulated by a sort of shampooing movement so as to disperse the liquid as much as possible. The water with which the solution is made must be sterilized or well boiled. The advantages of the plan are that it can be easily carried out by any medical man, as it is far less difficult than transfusion, besides which it is not so dangerous. Dr. Münchmeyer considers the plan so suitable for private midwifery practice that he suggests that a little apparatus, which is made on purpose for it, should always be carried in the obstetric bag, together with the proper quantity of common salt. Boiled water can always be procured, and this, when cooled down to the temperature of the body, 98·6° F., will do very well, though in hospital clinic he employs a more strictly sterilized solution.—*Lancet.*

SUBJECTIVE DIAGNOSIS OF ERRORS OF REFRACTION AND ACCOMMODATION.

By F. J. B. CORDEIRO, M.D.,
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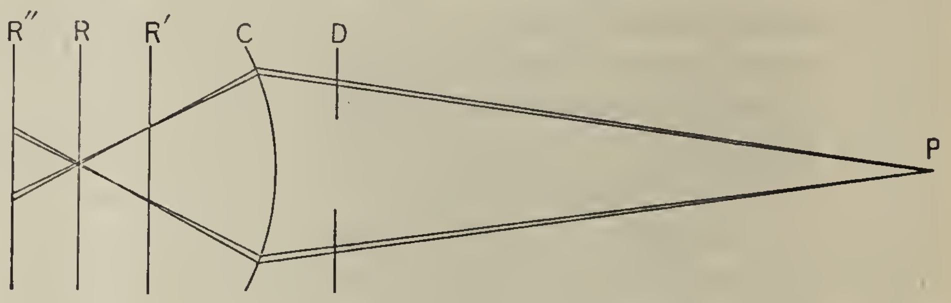
The following is simply a modification of Scheiner's experiment: Let P be a luminous point; C, a cornea; R, R′, and R″ retinæ corresponding to emmetropic, hypermetropic, and myopic eyes, respectively, as indicated in the diagram. Suppose a minute perforation in a diaphragm D to admit only a very slender pencil of rays on the cornea from the distant point P. In the emmetropic eye this pencil will be accurately focused on the retina; in the hypermetropic and myopic eyes there will be diffusion circles falling eccentrically on the retinæ if the pencil does not fall on the center of the cornea. Now, it is well known that images falling on the left of the retina are referred to the right, and *vice versa.* Consequently, by moving the diaphragm from left to right, the image on the hypermetropic retina will likewise move from left to right and the object P will appear to move from right to left—*i. e.*, in an opposite direction to that in which the diaphragm is moved. By similar reasoning it is easily seen that in the myopic eye the object will appear to move in the same direction as the diaphragm. In the emmetropic eye there will be no apparent motion.



This experiment supplies us with a very delicate subjective test for errors of refraction. It is advisable to have the luminous point as small as possible in order to detect the slightest motion. A candle flame, twenty feet distant, in a dark room answers well. Fixing the flame by the uncovered eye, the motion of the image caused by moving the diaphragm across the other eye can be referred to this, and the slightest motion detected. The error of refraction is directly proportional to the amount of motion.

Each meridian of the eye can be explored by moving the diaphragm backward and forward in that meridian. Thus the nature and degree of an astigmatism can be accurately determined. To correct errors of refraction it is only necessary to find glasses such that they will make the motion of the image nil in every direction. The same difficulties in securing perfect relaxation of the accommodation will, of course, be met with in this as in other methods of examination.

In the case of a myopic eye, if the luminous point is placed beyond the far point, the image will move in the same direction as the diaphragm, as stated above. If the luminous point is placed at the far point, there will be no motion; while, if the luminous point lies within the far point, with complete relaxation of the accommodation, the image will move in the opposite direction to the diaphragm.

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LAPAROTOMY AS A REMEDIAL MEASURE.

One of the most remarkable articles of the year is that of Mr. Lawson Tait in the November number of the Edinburgh Medical Journal. An exploratory abdominal incision, according to the author's statement, has on more than one occasion caused the disappearance of abdominal tumors even of large size and, in some instances, of a nature supposed to be malignant. Mr. Tait has related several happy experiences of this kind, but his statements have been received by the profession with absolute silence, which he explains either by the fact that his papers have not been read or by their having been received with silent incredulity. The tumors which have disappeared have been mainly those connected with disease of the liver, the spleen, and the head of the pancreas. The phenomena can not be regarded as mere coincidences, for the cases are too numerous, and it can not be believed that subsequent medicinal treatment brought about the desired end. Mr. Tait is satisfied that the mere opening of the peritoneal cavity has a direct influence in setting up the process of absorption of the tumor. The onset of distressing thirst after the peritonæum has been opened shows that some emphatic physiological process is at work. The treatment of peritonitis by abdominal section is another proof that a therapeutic change is brought about by the opening of the serous cavity, and Mr. Tait is positive that cases of this disease that have gone as far as suppuration can be cured permanently and speedily by opening and cleansing. The removal of serum and the draining of the peritonæum, in the great majority of non-purulent cases, effect a cure.

The cases cited by the author are very remarkable. He operated on a woman, thirty years old, supposing her to have an ovarian or a parovarian cyst. The tumor appeared to be composed of a glutinous mass of tissue and to be connected with the substance of the liver by a pedicle. The wound was closed. After the operation, which was performed in January, 1884, the patient's health steadily improved and the tumor was observed to be diminishing in size until it reached that of a man's fist. The next case was more wonderful. A married woman was sent to Mr. Tait on account of her having been the subject of some hepatic disease supposed to be of a suppurative character. On opening the abdomen, the liver was found covered with small seed-like bodies which he regarded as miliary abscesses. In this case, too, a cure resulted. A lady, fifty-four years old, was sent to Mr. Tait on the supposition that she was suffering from gall-stones. The abdomen was opened and the liver was found to be "scattered with large hard nodules." Mr. Tait had no doubt of the diagnosis of cancer of the liver, but here again recovery ensued. The head of the pancreas, in the next case, was the seat of a positive growth of new tissue, not an abscess or anything of the kind. After an exploratory incision the tumor disappeared and the patient was restored to health.

Time will prove whether or not Mr. Tait's experiences have been exceptional. Some years ago people were astonished at the success of the ovariotomists, and doubted the records in the journals; but who doubts them now? Because we can not explain how tumors are absorbed we have no excuse for doubting that they do disappear. For example, we can not explain the process by which a syphilitic tumor disappears on the administration of mercury. The one disappearance is as inexplicable as the other. We commend to our readers a careful perusal of the whole paper, the prominent points of which only, owing to our limited space, we are able to notice.

INSTRUCTION FOR GRADUATES IN LONDON.

Post-graduation instruction, as our London correspondent has informed our readers, has at length found its way to London, though it took a long time for it to reach there by the circuitous route from Vienna *via* New York. For its immense size and its inexhaustible supply of clinical material, London has done nothing to attract the young medical graduate to continue his studies there. The lack of centralization in medical matters, the loss of time in going from hospital to hospital, and the fact that the great English teachers of medicine and surgery have never given any attention to the special instruction of the young graduate, have driven many to Vienna and to Berlin who would have preferred to remain in a capital where their own language was spoken and which was very much nearer home.

Up to a certain point the teaching afforded by the London schools is unsurpassed. The elementary branches are taught in a most thorough manner in every school with which we are acquainted, and after the primary examination is passed the London-taught student obtains a most practical knowledge of medicine and surgery, but we consider that the massing of clinical teaching ability and clinical material in London ought to be used to still greater advantage, and be shared with the rest of the world. Hitherto there has been little to attract a medical visitor in London. He was allowed to witness operations by great men at the great hospitals, or he could attend the practice of some of the physicians as a kind of guest, but there was no institution at which he could put down his fee, enroll himself as a student, and feel that he was paying his footing. Moreover, there was no special instruction so arranged as to meet the requirements of senior students and graduates, unless we include the attempts at post-graduation courses established in a few isolated instances at some of the special hospitals.

This winter, under the leadership of that veteran teacher, Mr. Jonathan Hutchinson, an organized attempt to establish a post-graduate school will be made. The staff of five of the principal special hospitals—viz., the Brompton Consumption Hospital, the great Ormond Street Children's Hospital, the National Hospital for the Paralyzed and Epileptic, the Ophthalmic Hospital at Moorfields, and the Skin Hospital at Blackfriars—have entered into an agreement to form classes for special instruction under the name of the London Post-graduate Course.

That this scheme will be successful we do not doubt, and we clearly foresee that the graduate will derive great benefit from his course of instruction, but how much more attractive could this London school be made if a system of centralization were carried out, if some suitable building were obtained in the neighborhood, say, of Charing Cross, where the patients could be brought together under one roof and a great saving of time and labor be therefore effected. The graduate can not be blamed if he complains that the London special hospitals are too far apart to be of any practical use to him. His stay in the English capital is short, and his time and money are limited. He must have more than one course a day, and he will object to spending so much time in going to Dan for his chest diseases after he has been studying the ophthalmoscope all the morning at Beersheba. A central institution conducted by a selected staff of London teachers would attract a very large proportion of those who now flock to continental towns. If a number of Germans or Frenchmen speaking a language unknown to most of us can so arrange their courses of instruction as to attract graduates from every school in the world, surely a number of Englishmen of at least equal talent supplied with as good clinical material and speaking our own tongue can enter the lists as formidable rivals of their brethren of Berlin, Vienna, and Paris.

MINOR PARAGRAPHS.

"THE DREADFUL REVIVAL OF LEPROSY."

Under this rather alarming title, that might seem to assume that leprosy had been almost extinguished, Sir Morell Mackenzie publishes in the December number of the Nineteenth Century a paper that seems to have for its purpose the condemnation of the committee of the Royal College of Physicians that, in 1867, made a report on this disease. The author refers to the report as "an ill-starred document which has probably done more to propagate the disease than any other agency since the crusade." Dr. Mackenzie, as if apologetically, prefaces his excursion into this new field with the statement that "next to the skin the throat is the part most often attacked by the worst form of the disease," and he has fortified his personal observations by a reference to the latest works that have been published on the subject. He believes that to stamp out the disease the motto *écrasez l'infame* must be adopted, the sick being separated from the well and all suspicious cases being quarantined and carefully watched. Intelligent nursing, sanitary arrangements of the highest order, and occupation and amusement for the inmates, should be the essential features of leper asylums. The most important requisite is money, and the author thinks that England can much better afford to make the necessary expenditure in its colonies than Norway and Hawaii can in their respective territories. So far as the question of revival is concerned, it seems to us that it is rather by the increasing attention paid to sanitary matters, and the accumulation of data and issuing of health officers' reports, that so much leprosy is known to exist.

In the discussion at the New York Academy of Medicine last spring, equally good authorities differed regarding the contagious nature of the disease; and in America the number of lepers in Louisiana is decreasing, those in Florida come from the Bahamas; and the Norwegian lepers in Minnesota have not propagated the disease. Possibly environment is as important a factor as food is supposed to be in the genesis of leprosy.

ZOSTER AS AN INFECTIOUS DISEASE.

During the past few years several European physicians have been ranging themselves as advocates of the infectious nature of zoster, and have pointed out what they regarded as epidemics of that disease. In 1884 Gerne drew attention to the analogy between zoster and the eruptive fevers, and declared that he regarded it as a constitutional disease. During the present year Weigert, Gauthier, Kaposi, and Unna, through his student Török, have said that the disease is contagious and occurs in epidemics. Weigert would explain it upon the theory that it is due to an unknown organism acting from without, while Gauthier's, Kaposi's, and Unna's equally unknown organism acts from within. Gauthier's great unknown, as treated of by him in Lyon médical, has an elective affinity for the ganglia. We may, perhaps, assume that there are micro-organisms having an affinity for the pharyngeal mucous membrane in diphtheria, but to believe in a like affinity for ganglia is not so easy. It would seem that we must then believe in one set of unknown organisms having an affinity for one ganglion, and another set for another ganglion, and so on. Now, all these speculations are interesting, and the search for micro-organisms is fascinating, no doubt It is somewhat like fishing to the devotee of that pastime. You have the sport whether you catch anything or not. But up to the present time our old answers to the question "What causes zoster?" are satisfactory enough, and, until more proof appears in support of its infectious nature, we had better not hasten to be "off with the old love" and "on with the new."

A CASE OF CREOLIN POISONING.

A case cited in the Centralblatt für Gynäkologie shows that creolin is not so absolutely harmless as it has been said to be. A laborer drank 250 cubic centimetres of creolin for the purpose of committing suicide. He became unconscious, and had violent vomiting for two days, enlargement of the liver and of the spleen, acute nephritis, cramps in the upper extremities, and anæsthesia and paræsthesia in the regions supplied by the radial nerves. There were no symptoms of corrosive action in the digestive tract. Ultimately the patient recovered. It is evident from this that creolin must be considered a poisonous substance, at least in large quantities. The symptoms produced were alarming, but the danger of a fatal result appears to be much less than in similar poisoning with carbolic acid. In all cases in which it is employed it will be advisable to watch its excretion through the kidneys, and to do away with the creolin dressing when the urine becomes of a greenish-black color or when traces of albumin appear.

THE MEDICAL CORPS OF THE NAVY.

In his annual report to the Secretary of the Navy, Surgeon-General Browne presents a very creditable showing of the health and sanitary condition of the navy for the past year. There are, of course, the usual number of improvements suggested, but we are pleased to see that many suggestions regarding not only the sanitary conditions but also the comfort and convenience of several naval hospitals have been complied with. There has been a marked improvement in the quality of the supplies furnished the Government since the establishment of their chemical examination at the laboratory connected with the Brooklyn Navy Yard, and fewer are now rejected than formerly. Very interesting and valuable reports are made by several medical officers. Those regarding the occurrence of yellow fever on the Boston and Yantic are worthy of special mention. They attest careful observation and attention to detail on the part of the officers in charge. The conduct of the medical department of our navy certainly compares well with that of the navy of any nation.

SOMNAL, A NEW HYPNOTIC.

Radlauer, of Berlin, has introduced a new combination to which he has given the name "somnal." This substance is composed of chloral, alcohol, and urethane, and is said to be a true chemical compound and not merely a mixture. It is therefore different from the "chloralurethane" which has been used, for a year or more, by alienists and nerve specialists, and which has been considered by some of them both safe and reliable. The British Medical Journal says that somnal occurs in clear, colorless crystals, having a slightly bitter taste and being readily soluble in water and in alcohol. It is given in doses of thirty grains, and sleep is produced in thirty minutes. The sleep is described as sound and natural, lasting from six to eight hours, and followed by no unpleasant effects. Somnal does not disturb the digestion, has no influence over the pulse or temperature, and, in fact, has the excellent qualities of both chloral and urethane without their disadvantages. Favorable experience with the drug is said to have been reported from the hospitals of Berlin and Moscow.

BACILLI IN LANDRY'S PARALYSIS.

A study of interest has recently been made in the Pathological Institute at Bologna by Dr. E. Centanni (Riforma medica, 1889, No. 161; Centralblatt für klinische Medicin, Nov. 30, 1889) upon the infectious nature of Landry's disease. He had the opportunity of making an anatomical examination of a typical case of acute ascending paralysis, and found the lesion to be an acute interstitial neuritis with some tendency to affect the spinal cord indirectly. Furthermore, a bacillus of peculiar character and in typical localization was observed in large numbers in all the peripheral nerves, when subjected to staining with methyline-blue-borax, according to Sahli's method. The germ is cylindrical, rod-shaped; with rounded ends, about 1·2 micromillimetres in length, without spores, and showing no tendency to any particular form of aggregation. It is found almost exclusively in the endoneural lymph-spaces surrounding the sheath of Schwann, and not elsewhere in the nerves or muscular systems.

THE BACILLUS COLI COMMUNIS AND TYPHOID FEVER.

In a recent number of La province médicale, M. Rodet and M. Roux report the results of experiments which lead them to believe in the existence of an ætiological relationship between the *Bacillus coli communis* and typhoid fever. This conclusion is founded upon the examination of water from a well in Lyons from which ten persons were supposed to have acquired typhoid fever, upon the examination of pus from an abscess in a case of typhoid fever, and upon the examination of the dejecta of three patients believed to be suffering from the same disease. In all these examinations the *Bacillus coli communis* was found; the *Bacillus typhosus* of Eberth was thought to be absent. It is almost superfluous to point out the total variance of these results from those obtained by all other investigators. In view of this fact and of the small number of cases examined, the diagnosis of some of which was, to say the least, doubtful, we must look with much suspicion upon the conclusions arrived at, and hesitate to accept them until supported by experiments as conclusive as those upon which our present ideas regarding the ætiology of typhoid fever are based.

THE SIGNIFICANCE OF ERYTHEMA.

Erythema multiforme is more and more growing in importance as a symptom or precursor of not a few grave diseases. It does not do for us now to regard an attack of it as simply due to indigestion. It has been shown that the occurrence of erythema may mark the beginning of typhoid fever, may occur as one of the symptoms of acute or chronic malarial disease, may be a manifestation of a rheumatic or lithæmic state, or may even, as it were, be an abortive manifestation of any of these diseases. Our attention is again drawn to the fact by Dr. Moncorvo, of Rio de Janeiro, who, in a recent number of the Revue mensuelle des maladies de l'enfance, reports two cases of erythema nodosum occurring in the course of acute malarial disease and yielding promptly to quinine.

CREOLIN IN THE TREATMENT OF ERYSIPELAS.

In the Gazette hebdomadaire de médecine et de chirurgie, M. Eloy gives some formulæ for the use of creolin in erysipelas that have been employed by German and Austrian physicians. One is an ointment of three parts of creolin to twenty-five of lanolin, to be smeared over the affected part and for an inch or two beyond its limits. and covered with gutta-percha tissue. Another is an ointment of one part of creolin, four parts of iodoform, and ten parts of lanolin. The latter is said to be the more active of the two. The use of either should be continued for several days after the disease has ceased to spread.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 31, 1889:

DISEASES.	Week ending Dec. 24.		Week ending Dec. 31.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	14	2	18	5
Scarlet fever	57	6	75	3
Cerebro-spinal meningitis	0	0	3	3
Measles	43	6	53	7
Diphtheria	99	16	97	40
Varicella	8	0	2	0

The late Dr. James H. Hutchinson, of Philadelphia.—The College of Physicians has adopted the following minute: "The College of Physicians of Philadelphia has heard with profound regret of the death, after only a few hours' illness, of its vice-president, Dr. James H. Hutchinson, and hereby records its profound sense of the loss—to human eyes irreparable—thus occasioned, not alone to its own body, but as well to the whole medical profession of the city and vicinity, and to the entire community. Still in the prime of life, with skill and knowledge broadened and confirmed by wide and ever-growing experience, Dr. Hutchinson shone prominent both as a faithful and trusted family physician and as a consultant whose advice and assistance were largely sought for and highly prized by his fellow-practitioners, all of whom recognized both the value of his counsel and the uniform candor and conscientious honesty with which it was bestowed. A fellow of this college for more than a quarter of a century, he served it in council and committee room with a zeal and fidelity which are amply witnessed by its transactions and by the records of its library, and which but met with its just recognition in his unanimous election to the honorable office of vice-president. A scholarly and accomplished writer; an able clinical teacher; a skillful and judicious practitioner, well exemplifying the highest and best type of the practical physician; a high-minded, honorable Christian gentleman, tried and true in all the various relations of an active, busy life—his death leaves a gap which can never be filled; a precious memory which will endure long after those who now grieve for him shall themselves have passed away forever."

St. Luke's Hospital.—Dr. T. Halsted Myers has been appointed attending orthopædic surgeon to the hospital.

The Manhattan Medical and Surgical Society.—Officers were recently elected as follows: President, Dr. W. K. Simpson; vice-president, Dr. Hobart Cheesman; secretary and treasurer, Dr. W. T. Dawson; executive committee, Dr. C. W. Allen and Dr. A. M. Léon.

The Death of Dr. David Prince, of Jacksonville, Ill., is announced as having taken place on the 19th of December, in the seventy-fourth year of his age. Dr. Prince was one of the leading surgeons of the West, with a reputation far more widely diffused than is implied by that term.

Phenacetin in Influenza.—Dr. A. C. Hallam, of Brooklyn, states that he has used phenacetin extensively in the present epidemic of influenza and has been well pleased with its effects. The rapidity with which it relieves the muscular pains has been very gratifying to him, the patient breaking out in a profuse perspiration and in a few hours seeming relieved of all but the catarrhal symptoms, which run on and call for other treatment.

The New York Academy of Medicine.—Mrs. Eliza C. Farnham has given $10,000 to the library fund in memory of her deceased husband, Dr. Horace P. Farnham.

Change of Address.—Dr. H. V. Würdemann, from Washington, D. C., to No. 805 Grand Avenue, Milwaukee, Wis.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 22 to December 28, 1889:*

DeWitt, Calvin, Major and Surgeon, Fort Missoula, Montana, is granted leave of absence for one month, to take effect not later than January 1, 1890, with permission to apply to Division Headquarters for an extension to include February 27, 1890.

Brown, Paul R., Captain and Assistant Surgeon, now at Trinidad, Colorado, will, by direction of the Secretary of War, report in person to the surgeon in charge of the Army and Navy General Hospital, Hot Springs, Arkansas, for admission to and treatment in the hospital. Par. 16, S. O. 296, A. G. O., December 20, 1889.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending December 28, 1889:*

Stone, E. P., Passed Assistant Surgeon. Ordered to the Independence, Mare Island, Cal.

Society Meetings for the Coming Week:

Monday, *January 6th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *January 7th:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (semi-annual—Lockport), N. Y.; Hudson (Jersey City) and Union (quarterly), N. J., County Medical Societies; Chittenden, Vt., County Medical Society; Androscoggin, Me., County Medical Association (annual); Baltimore Academy of Medicine.

Wednesday, *January 8th:* New York Surgical Society; New York Pathological Society (annual); American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany and Dutchess (annual—Poughkeepsie), N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Hampshire (quarterly—Northampton) and Worcester (Worcester), Mass., District Medical Societies; Bennington County, Vt., and Hoosick, N. Y., Medical Society (annual—Arlington, Vt.); Philadelphia County Medical Society.

Thursday, *January 9th:* New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society (annual); Medical Societies of the Counties of Cayuga, Fulton (annual—Johnstown), and Rensselaer (annual), N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *January 10th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties.

Saturday, *January 11th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

Second Annual Meeting, held in Nashville, Tenn., November 12, 13, and 14, 1889.

The President, Dr. Hunter McGuire, of Richmond, Va., in the Chair.

(*Concluded from vol. l, page 663.*)

The Improved Cæsarean Section versus Craniotomy.—Dr. W. D. Haggard, of Nashville, read a paper in which he said that the improved Cæsarean section offered justifiable means of saving both mother and child, and relieved the heart and conscience from the charge of scientific murder. Embryotomy on a living child would soon cease to be regarded as scientific, or even a justifiable operation. This seemed to be foreshadowed by the statistics of Caruso, who had reported a case in detail by Sänger and one by Zweiffel, and added statistics up to October, 1888, comprising one hundred and thirty-five cases. Six successful cases were known in addition to Caruso, but the details necessary for publication were lacking. German operators had performed seventy-four of these operations, Americans sixteen, and Austrians sixteen. The results obtained by American surgeons were inferior to those of German and Austrian operators. The results showed a large percentage of recoveries among mothers in all cases, and a still larger percentage in the cases of children. In three cases in which the operation had been done a second time, both mothers and children had recovered. A careful estimate of the results of craniotomy under antiseptic precautions showed that 93·04 per cent. of mothers recovered. Selecting similar cases on which section was performed, the percentage of recoveries in these cases was 89·04, and 100 per cent. in children.

The Treatment of Ectopic Pregnancy.—Dr. W. H. Wathen, of Louisville, Ky., read a paper on this subject. He said, in order to adopt the best treatment in ectopic pregnancy, it was necessary to know its correct pathology; failure in this particular had resulted in a variety of methods of treatment, and gynæcologists of good ability differed widely in their views. But physicians who recognized that ectopic pregnancy was probably always tubal in its origin were united in their opposition to the use of electricity or other means to destroy fœtal life. They preferred the removal of the gestation sac by laparotomy. He referred to the fact that Thomas adhered pretty much to the old classification of Parry and De Zeimeris, and that he spoke of an "impregnated ovum attaching itself primarily to the peritonæum, and of a fœtus and placenta entering the peritoneal cavity by rupture and developing there." He denied the possibility of an ovum attaching itself primarily to the peritonæum, and said that the placenta could not become separated from the tube and then become attached to other structures; the ovum must be held immovably in one position before its villi could penetrate the tissues; the placenta might become slowly separated from its tubal attachments and fasten itself to other structures by making epiphytic inroads upon the abdominal walls or viscera by stripping off the peritonæum. He did not believe that a classification based upon old statistics of post-mortem examinations could be correct, because these examinations were made by men not trained in pathological and microscopical research, who could not accurately distinguish the tissues, often matted together and entirely changed in physical appearance.

He divided the treatment of ectopic pregnancy as follows: 1. The treatment before primary rupture of the tube. 2. The treatment after rupture of the tube into the folds of the broad ligament, and before the period of fœtal viability. 3. The treatment where the sac ruptures into the peritoneal cavity. 4. The treatment after fœtal viability, and at the full period of gestation. 5. The treatment after death of the fœtus, at or before the full period of gestation.

He did not believe that a correct diagnosis was ever probable before primary rupture, and in no instance would he use electricity to destroy fœtal life. He performed laparotomy, and maintained that the immediate and subsequent results would be better. He said that while Dr. Harbert in 1849, Kiwisch in 1857, and Dr. Rodgers in 1867, had suggested the removal of the sac in tubal rupture, he was probably the first to recommend its removal if the diagnosis was made before rupture. If the tube had ruptured into the folds of the broad ligament and pregnancy had continued four and a half or five months, he advised expectancy, and to operate after fœtal viability, but before the beginning of false labor. He advocated the removal of the placenta and fœtal membranes where it was possible to do so and control hæmorrhage by ligation *en mssse* at the proximate end of the large vessels. If this could not be done, it was best to leave the placenta to be absorbed and close the abdominal wound aseptically, after the fashion recently described by Mr. Tait.

Pus in the Pelvis and how to Deal with it.—Dr. Joseph Price, of Philadelphia, contributed a paper on this subject. By pus in the pelvis he meant pus that had its *fons et origo* in the pelvic organs or their investment. The rarer causes of pus in the pelvis might be said to be (1) carious bone, psoas abscess; (2) traumatism, sloughing, results of electricity, direct violence, etc.; (3) foreign bodies, such as an extra-uterine fœtus's bones, etc. The general rule was that pus in the pelvis was always the result of diseased conditions of the uterine appendages, whether it occurred as a result of a ruptured extra-uterine gestation sac, a suppurating ovarian or dermoid cyst, or salpingitis caused by gonorrhœa, parturition, dirty instruments, electricity, or what not. In general, then, when the surgeon found pus in the pelvis he would find its origin in the uterine appendages. He had seen pus discharging from the rectum, from the bladder, from the umbilicus, and from the vagina. He had seen psoas abscess, perforating appendicitis, idiopathic peritonitis, and typhoid fever, and found the seat of trouble in the tubes and ovaries. In all his experience he had never seen pus in the pelvis independent of disease of the appendages. To make the statement definite, he had seen more than once double pyosalpinx and double ovarian abscess contained in a pus-pocket in the peritoneal cavity composed of adherent intestines and inflammatory tissue, four abscess cavities contained within a fifth. Again, he had seen a single purulent tube with four distinct pockets in it. Pus could burrow through the cellular tissue and find vent as before stated. How should pus in the pelvis be treated? The general principles of surgery for the treatment of pus in any other part of the body applied with equal force to the pelvis. Namely, where pus was present, evacuate it, and secondly remove the cause of the suppurative process. It was as unsurgical and unscientific to allow pus to remain in the pelvis as it would be to allow it to remain in the brain, in the mammary gland, or under the fascias in any part of the body. It was as unsurgical to allow a suppurating tube or ovary to remain in the pelvis as it would be to allow a sequestrum of dead bone to remain in place or a necrotic placenta or membrane to remain in the uterus. These principles did not admit of evasion. All sorts and kinds of treatment had been tried without avail. Every man of experience knew the futility of counter-irritation, local depletion, or a general systemic treatment in the vast majority of cases.

There were only three methods of treatment common to physicians to-day—namely, electricity, vaginal drainage, and abdominal section with the removal of the diseased parts, thorough irrigation of the peritoneal cavity, and drainage.

The first of these methods need scarcely be mentioned in cases where pus was already present. Electricity had no place in the treatment of pus in the pelvis. Vaginal drainage was a crude, inefficient method, and was not so safe as some would have us believe. In abdominal section we had the quickest, easiest, most exact, and therefore safest mode of treatment for pus in the pelvis.

Gynæcology in its Relation to Obstetrics.—Dr. W. L. Robinson, of Danville, Va., read a paper in which he spoke of the cervix uteri in its pathological condition predisposing to hæmorrhage prior to labor, laceration, and septic absorption. He could find no explanation in medical literature of the cause of ulceration of the cervix, non-specific and non-malignant, causing hæmorrhage in the cases which came under his observation within the last twelve months. He used the word "non-specific" because of the perfect health of patients prior to pregnancy and since delivery.

The speaker gave the histories of two cases and said that he had for several years made it a practice to examine his regular patients whenever a yellowish or dirty white vaginal discharge existed, especially if the vulva was in a state of irritation, and almost invariably found the os granulated, whether lacerated or not, and he persistently treated such cases until it was restored to a healthy condition, explaining fully to the patient the importance of such treatment.

Dr. Bedford Brown, of Alexandria, Va., corroborated the statements of Dr. Robinson by the citation of a case. The patient had had a bilateral laceration of the cervix. She had become bitterly hostile to sexual intercourse with her husband, and had an intense dislike of his company and presence. This had preyed upon her mind to such an extent that she had become insane. He had treated the case with applications of nitrate of silver, and the lacerations had healed perfectly. After this all symptoms had entirely disappeared. The patient regained her reason and her affection for her husband, and lost the hostility to sexual intercourse which she had had. She had since borne three children. The speaker had examined the condition of the cervix after each birth, and the repair was perfect.

Menstruation and Pregnancy after Removal of Both Ovaries.—Dr. George J. Engelmann, of St. Louis, read a paper thus entitled. The following were the conclusions drawn from the history and microscopical examination of Dr. Engelmann's cases, which were corroborated by numerous cases of oophorectomy and double ovariotomy now observed whose histories had been recorded for a sufficient length of time after the operation: 1. That the continuance of menstruation after removal of both ovaries was due to remnants of ovarian stroma left *in situ*. 2. That portions of the ovarian tissue, however small, which remained after the removal of the greater portion of the organ, whether or not the Falloppian tube was preserved, might retain their activity and continue the functions of the entire organ. 3. Even elongated pedicles might contain ovarian stroma in which the functional activity of the organ might be continued. 4. That remnants of ovarian stroma did not necessarily preserve their vitality and functional activity. The deductions of practical value to the operator were even of greater importance, and they were these: (*a*) For the successful performance of oophorectomy it was requisite that every particle of ovarian stroma should be removed if the desired result was to be expected with certainty. (*b*) If shrinkage of fibers, the limitation of hæmorrhage, or cessation of annoying symptoms was to be accomplished with the greatest certainty, both ovaries must be removed completely, and not even a particle of ovarian tissue left *in situ*. (*c*) In the performance of double oophorectomy in women not yet beyond the climacteric, and not suffering from utero-ovarian reflexes, such healthy ovarian tissue as might exist should be spared in order that functional activity might not be impaired.

Dr. W. D. Haggard, of Nashville, said that it was very rare for a woman to menstruate regularly after removal of both ovaries and both tubes. He believed that the hæmorrhagic discharges from the uterus after oophorectomy depended upon some other cause than that of menstruation. It might depend upon some trouble connected with the endometrium, as suggested by Dr. Engelmann, a polypoid growth, or a congested condition of the blood-vessels which supplied the endometrium. In January last he had removed both ovaries and both tubes from a woman, and it was barely possible that bits of ovarian stroma were left behind, as three months later the patient continued to have hæmorrhagic discharges which greatly annoyed her.

Dr. A. W. Johnstone, of Danville, Ky., held and believed that the ovary had no more to do with menstruation than the clitoris had. To demonstrate this he had left ovarian tissue behind, yet menstruation had ceased. He gave at considerable length his reasons for such a belief.

Dr. Virgil O. Hardon, of Atlanta, Ga., had operated on a patient about eighteen months since for a bleeding fibroid tumor, removing both ovaries, and in removing the second ovary he feared he had not removed all the ovarian tissue, as the precarious condition of the patient at the time would not permit a continuance or prolongation of the operation. The patient had recovered from the operation and had menstruated with unvarying regularity from that time to the present.

Dr. Richard Douglas, of Nashville, said that Battey's operation of itself did not control menstruation, whereas in Tait's operation, which consisted in the removal of both ovaries and both tubes, the gynæcologist embraced in his ligature the nerve which controlled the menses.

Dr. A. V. L. Brokaw, of St. Louis, warmly took exception to some remarks made by Dr. Johnstone, who was inclined to give Tait the credit of first performing oophorectomy. He said he admired Tait's skill as an operator, but as a man he did not, for with characteristic English modesty he (Tait) added his name to operations that did not rightfully belong to him, as, for instance, the flap-splitting operation.

Dr. Brokaw's remarks were warmly applauded.

Dr. Wathen said gynæcologists were more familiar with the laws that govern menstruation in many respects than they formerly had been, but that we still required more scientific investigation, personal observation, and experience to convince us that any one cause controlled menstruation.

Dr. Johnstone said he arose for the purpose of defending an absent friend. The statement made by Dr. Brokaw that Tait had professed to be the originator of the flap-splitting operation was not true. A full description of the method could be found in a recent issue of the "American Journal of Obstetrics." It was true that Tait had used the flap-splitting operation without knowing that it had been described some twenty years ago by a Dublin surgeon, but in this issue he gave the originator due credit for the operation.

An Experimental Study of Intestinal Anastomosis.—Dr. John D. S. Davis, of Birmingham, Ala., then read a paper on this subject, in which he reported thirty-two adhesive experiments on dogs and seventy-nine successful anastomotic operations by means of his approximation catgut mats and catgut plates for the purpose of illustrating the advantages of denuding the coaptation serous surfaces and the integrity and absorbability of his catgut mats and plates. He reported two applications of anastomosis to man. The first, ileo-colostomy for obstruction in the region of the ileo-cæcal valve, by means of catgut mats; the second, jejuno-jejunostomy for multiple gunshot injuries of the jejunum, with resection and lateral approximation by means of catgut plates.

His paper gave the advantages of anastomosis over circular enterorrhaphy, based on experimental facts. His anastomotic devices consisted of catgut mats and catgut plates, oval and horseshoe-shaped. The mats were made of catgut in the following manner: A large, continuous, four-rib catgut frame was held in an oblong shape by four artery forceps, while the frame was being interwoven into an oval mat of the desired size by means of a small catgut thread, armed with a needle. The coaptation threads were fixed by passing a needle and thread between the two middle ribs and so returned as to loop two or three of the small gut sutures used in weaving the ribs together. The plates were made of any size by means of an ordinary pocket-knife from a large one-eighth-inch thick, dry, compressed plate of the uncut gut tissue. The coaptation threads were fixed by passing them through the plates by means of a needle, or, better, by means of an awl, and knotted to fix them. The horseshoe plates were made from the oval plates by cutting out one end. They were used for closing in a hinge manner extensive gunshot wounds of the convexity of the bowel.

Intestinal Anastomotic Operations with Segmented Rubber Rings, with Some Practical Suggestions as to their Use in other Surgical Procedures, by Dr. A. V. L. Brokaw, of St. Louis, Mo. For many months the author had been experimenting with segmented rubber rings in all the anastomotic operations, and such operations as gastrostomy, cholecystostomy, duodeno-cholecystotomy, jejuno-cholecystotomy, and circular enterorrhaphy. The rings used by him were rapidly made, during an operation if necessary. All that was required was some rubber tubing or a soft ordinary rubber catheter and some catgut. He preferred tubing a sixteenth to an eighth of an inch in diameter. A section of this, of sufficient length to make a ring of the desired aperture, was cut into four or eight segments. Passing heavy strands of catgut through the lumen of these pieces, the ends were tied tightly enough to bring the ends of all segments together, forming an oval ring. To the catgut strands were tied from four to six silk apposition threads twelve to fourteen inches long, and the attachment of needles to these threads rendered the ring ready for use. Another method was to pass a heavy double strand of catgut continuously through the segments several times, approximate the ends of the segments, and push the ends of the catgut into the tubing. This ring would have a better surgical finish, and, after the apposition threads were tied between the segments, the ring would maintain its perfect form until the catgut was absorbed. The rings had been passed as early as the fifth day in one of his experiments. In forming an anastomosis, after ordinary No. 6 darning needles were attached to the apposition threads, he compressed the ring and passed it through the opening made in the lumen of the bowel, then passed the threads through the intestinal wall from within outward. Ascertaining that the ring rested well in place, he proceeded to the second in the same manner; he apposed, and after scarification of the marginal serous surfaces, as suggested by Senn, tied the apposition threads. When possible, it was well to utilize omental grafts, which added to the security. With two such rings circular enterorrhaphy might be performed, the rings corresponding in size to the lumen of the bowel, care being taken that they were not so large as to press too much upon the delicate mucosa or to overstretch the bowel, as a local gangrene might then follow. A ring being introduced at each end of the gut at the point of section, the threads were passed through the wall less than one third of an inch from the divided margins. The distal end of the gut was invaginated and the proximal gut pushed into the distal, bringing the serous surfaces in contact. The threads were then tied and a few Lembert sutures added, the entire operation requiring less than ten minutes. In one half of his experiments with this operation the result had been excellent. Of the fourteen dogs operated on by this method, in seven the results had been all that could be desired; marked stenosis was found in several cases and in all a ridge at the seat of the operation. The great advantage of the segmented rubber rings over other devices used was the simplicity of their construction and the rapidity with which any number might be made. The large aperture of segmented rings made it possible to perform ileocolostomy by the following method, which the author believed was original: The ileum being divided a short distance from the cæcum, the divided end of the distal bowel was invaginated into itself and secured by a continuous suture through the serous and muscular coats. Above the proximal end a clamp was placed and a ring adjusted to the lumen; a slit was then made in the convex surface of the ascending colon and a ring introduced. The bleeding checked, the proximal end of the divided ileum was inserted into this slit, the threads were tied, and Lembert sutures were added. This operation might be performed quickly, and was indicated in such cases as irreducible intussusception of the ileum into the cæcum and malignant diseases of the colon.

The Open Abdominal Treatment.—Dr. B. E. Hadra, of Galveston, Texas, read a paper with this title in which he said that abdominal surgery, notwithstanding its immense progress, had not as yet given even a moderate degree of satisfaction in acute diffuse septic peritonitis. Chronic infectious processes offered much better prospects for surgical interference, such as tuberculosis, actinomycosis, and the recently described microbic peritonitis of as yet unknown origin.

The points marking the diffuse septic peritonitis were: 1. The extensive area of peritoneal surface with its enormous power of resorption of the poisonous fluid. 2. The active secretion into the sac, thereby furnishing cultivating fluids for the germs. 3. The ready absorption by the lymphatics of the diaphragm. 4. General distribution of the poison by intestinal peristalsis. 5. The infection of the intestinal walls from without, and the additional infection of the peritoneal cavity by transudation and immigration of germs from the inside of the bowels. 6. Distension of the bowels, increasing the pressure and resorption. 7. The impeding effect of this latter condition upon respiration, defecation, and secretion of urine, leading to systemic poisoning by retained products of oxidization. 8. In perforative cases, the contamination by fæcal matter; in stab and gunshot wounds, by other impurities, bile, urine, etc., and, above all, contaminated blood.

The indications for treatment, besides supporting the patient's strength, relieving suffering, giving proper action to the bowels and kidneys—in short, besides the general medical treatment, were: 1. To remove the obnoxious material—germs, fæcal matter, urine, etc. 2. To prevent its new formation or a repetition of its entrance. The sac should be kept dry to deprive the germ of its soil. The breaks have to be mended so that the channels of contamination may not lead to the outside. 3. To prevent the bowels from distributing the poison throughout the whole cavity. 4. To counteract pressure and suction in order to prevent resorption of the poison. 5. To prevent infection of the peritonæum and the bowel. 6. To relieve pressure in order to avoid disintegration and paralysis of the different structures. 7. To free respiration, defecation, and urination.

Twenty Consecutive Cases of Abdominal Section.—Dr. L. S. McMurtry, of Danville, Ky., read a paper with this title.

The series of cases comprised the first twenty abdominal sections performed by him, and illustrated a variety of pathological conditions and diverse complications. All the cases had been in private practice, and, with two exceptions, all the operations had been done at the homes of the patients. Two had been treated as private patients in a well-appointed hospital. In many cases operative treatment had only been accepted after all ordinary and so-called conservative measures had been exhausted; and in several cases the operation had only been accepted when the patient's condition was regarded hopeless by both physician and family. In no case, however desperate or complicated, had an operation been refused.

After reciting the histories of a number of cases the speaker said that thorough work, irrigation, and drainage, all conjoined, gave the only basis of success in the cases reported. In a number of his cases he had operated in the midst of active peritonitis, with vomiting and tympanites. In this condition of affairs he had witnessed the most gratifying results from persistent and oft-repeated exhibition of calomel, dropping two or three grains on the tongue every hour until the bowels were freely moved. Increasing experience had impressed him more and more with the difficulties of abdominal work, and made him less confident of meeting often with simple cases.

He closed his paper with a plea for earlier interference in abdominal diseases. When operations were done in good time, before emaciation and exhaustion came, and before repeated attacks of peritonitis had complicated the comparatively easy task for the surgeon, then would the surgeon's results excel even the brilliant records of the present time.

Complications occurring in the Clinical History of Ovarian Tumors.—Dr. Richard Douglas, of Nashville, read a paper with this title. (To be published.)

Tropho-neuroses as a Factor in the Phenomena of Syphilis.—Dr. G. Frank Lydston, of Chicago, Ill., read a paper in which he called attention to the relation of disturbances of the trophic function of the sympathetic nervous system, which he maintained were the essence of all the phenomena of syphilis. He said the relation of certain syphilitic phenomena to organic or functional disturbances of the nervous system, and particularly the sympathetic system, was manifested here and there along the whole line of morbid phenomena developed in the course of the disease. Syphilitic fever was undoubtedly dependent upon the action of a special poison upon the sympathetic nervous system. From what we knew of the trophic functions of the sympathetic, we were justified in inferring that the majority of fevers were dependent upon the action of a specific poison upon the sympathetic ganglia. The syphilitic poison might produce disturbances of the sympathetic, with perversion of tissue, metabolism, and excessive production of heat. The inconstancy of the syphilitic fever was explicable upon the ground of idiosyncrasy. The syphilitic roseola had been demonstrated to be an exception to the rule that syphilitic lesions were due to a collection of proliferating cells. It was due to vaso-motor disturbance, with resulting dilatation of capillaries. This nervous disturbance was dependent upon the impression of the syphilitic poison upon the sympathetic ganglia. The accumulation of cells in the more pronounced lesions of syphilis was simply an exaggeration of the normal process of tissue building. As was well known, such tissue building was presided over by the filaments of the sympathetic nerves.

He maintained that all the pathological processes incidental to syphilis were due to disturbances of nutrition produced by the impression of the syphilitic poison upon the sympathetic nervous system, and that it was immaterial to the cogency of this theory whether the poison of syphilis was a microbe, a degraded cell, or a chemical poison. If any attempt had been made to show that tropho-neuroses were the basis of all syphilitic phenomena, the author was not aware of it.

Gunshot Fractures of the Femur.—Dr. John Brownrigg, of Columbus, Miss., read a paper in which he discussed the class of cases requiring amputation, and those in which a more conservative course should be pursued. He exhibited several appliances devised by himself.

Treatment of Contracted Bladder by Hot-water Dilatation.—Dr. I. S. Stone, of Lincoln, Va., read a paper on this subject. During the past few years certain protracted cases of cystitis, occurring chiefly in women, had been observed by the writer, which had resisted all known forms of medical treatment, and called for some surgical or mechanical measure of relief. He described the manner of dilatation as follows: "The patient is given sulphate of morphine, gr. $\frac{1}{4}$, sulphate of atropine, gr. $\frac{1}{200}$, hypodermically. She is placed on her back on a table for convenience, although it would answer to arrange the bed with the patient thereon to suit the operator. A soft catheter is at once inserted into the bladder, and, after the urine has escaped, hot water (at 110° F.) is thrown into the bladder until the patient will no longer bear it. This is allowed to escape, and is measured, giving the full size of the bladder in its present condition. As the morphine gradually becomes absorbed, the patient will bear further distension; each time perhaps one drachm may be added to the capacity of the bladder. I prefer using a rubber-ball syringe holding two to four ounces. The pressure of the hand is safer than that of the tube or funnel or any instrumental gauge, as the patient generally is unable to resist the tendency to strain, owing to tenesmus produced by the expansion. As each séance should continue thirty to sixty minutes, the bladder may be filled and emptied many times, and at first the operator must be well satisfied if the gain is only one or two drachms in a bladder whose capacity is perhaps only two ounces. As the patient comes fully under the influence of the morphine, the water may be increased in temperature to 120° F. The very best effects follow its use when at this temperature."

Remarks on Certain Obscure and Minor Forms of Pelvic Cellulitis simulating Malarial Fever.—Dr. Bedford Brown, of Alexandria, Va., read an interesting paper with this title.

Observations based upon an Experience of Seventy-two Miscellaneous Abdominal Sections.—Dr. Joseph Taber Johnson, of Washington, D. C., presented a paper thus entitled. Of this number, 29 had been for the removal of ovarian tumors varying in size from one to sixty-four pounds—26 recoveries and 3 deaths; 29 cases of removal of the uterine appendages, with 27 recoveries and 2 deaths; 7 supravaginal hysterectomies for large uterine fibroids, with 3 recoveries and 4 deaths; 1 Cæsarean section, death on the tenth day; 1 cyst of the kidney, weighing seventy-four pounds, death from exhaustion; 1 fatal case of extra-uterine pregnancy, operated on six weeks after rupture, general peritonitis, with pulse 130, temperature 103°, for the week previous; 1 fatal case of general abdominal cancer; 3 exploratory incisions, all ending in recovery. Total, 72 laparotomies, with 59 recoveries and 13 deaths.

Of the 58 ovarian operations, the first three deaths had been in the second and third and fifth of his series. In the last 52 ovarian operations there had been only two deaths; one of these was from tetanus occurring on the fifteenth day after operation, when everything had indicated a perfect recovery. The other had been that of an insane patient who had been four years in an insane asylum on account of nymphomania. She could not be controlled entirely, and her efforts to get out of bed set up inflammation about the abdominal sutures, causing an abscess which had burst internally and caused death.

Dr. Johnson emphasized the statement that experience in operating was nowhere so valuable as in the abdominal cavity; that the "unexpected" was so often found; that many cases would be lost if the operator was not prepared for and equal to the emergencies as they "unexpectedly" arose.

Officers for the Ensuing Year.—The following officers were elected: President, Dr. George J. Engelmann, of St. Louis, Mo.; first vice-president, Dr. B. E. Hadra, of Galveston, Texas; second vice-president, Dr. Duncan Eve, of Nashville, Tenn.; secretary, Dr. W. E. B. Davis, of Birmingham, Ala.; treasurer, Dr. Hardin P. Cochrane, of Birmingham, Ala.

On motion, the association adjourned to meet in Atlanta, Ga., on the second Tuesday in November, 1890.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of October 18, 1889.

Dr. A. B. Judson in the Chair.

Rhachitic Pseudo-paralysis.—The paper of the evening was read by Dr. H. W. Berg, who stated that in this affection the rickety child from two to five years old was unable to walk, and in some cases he could not stand or even sit. The disability was not the result of nervous lesion, but rather the result of muscular weakness, pain in the muscles and in the bones at the points of muscular attachment, flaccidity of the ligaments, and softness of the bony levers. Such a child wished to be let alone; he instinctively preferred to keep quiet. This condition was to be distinguished from infantile paralysis by the absence of local atrophy and cold, and real paralysis; not so readily, however, from metadiphtheritic paralysis, where the diagnosis would rest on the preceding occurrence of diphtheria, the recent origin of the paralysis, and, above all, on the difficulty of swallowing and speaking, dependent on involvement of naso-pharyngeal and laryngeal muscles. Spastic paralysis, even when mild, had an exalted muscular activity which served to distinguish it from rhachitic pseudo-paralysis; and the paraplegia of Pott's disease could not be mistaken if the kyphosis was obvious. The prognosis was uniformly favorable. These were the cases which gave such good results after indiscriminate circumcision. The object of treatment should be to counteract the effect of rhachitic malnutrition. These children should have a great deal of milk; cod-liver oil should be given unmixed; and phosphorus in the following prescription:

℞ Phosphori	gr. j;
Alcohol. absolut.	♏cccl;
Spt. menth. pip.	♏x;
Glycerinæ	ʒ ij.

M. et sig.: Six minims three times a day, to be increased one drop weekly until ten drops were given.

Dr. W. L. Carr had seen a number of cases in which a striking lack of muscular power was symptomatic of rickets, although bone changes were not obvious. A number of these children had been fed at the table or on patented foods. Proper attention to diet soon brought about a restoration of muscular power without tonics.

Dr. R. J. Devlin recalled well-marked cases of this affection in children who had been exclusively fed on milk from a healthy mother.

Dr. T. H. Holgate said that in his experience with non-rickety children the relief of preputial irritation by operative interference had removed serious nervous troubles. In one case, which he had presented to the Academy, inability to walk or stand had been relieved in this way in a child who was entirely free from evidences of rickets.

Dr. R. H. Sayre related a similar case occurring in a boy who from some central lesion had not walked for some years. After partial circumcision he could walk with the aid of two canes. A trouble of twelve years' standing had thus been relieved in six weeks.

Dr. Berg agreed with Dr. Carr in thinking that rhachitic inability to walk was sometimes present without the usual rhachitic deformities. He recognized the fact that urinary troubles occurred as the result of contracted prepuce, but he had never seen a case of lesion of the nervous centers cured by circumcision. He recalled a case of difficult micturition and inability to walk in a rickety child whose phimosis had not been relieved, because the operation had been declined. The difficulty in micturition had persisted, but the child had walked within eight weeks after being put upon proper diet.

Excision of the Hip Joint.—Dr. R. H. Sayre presented a little boy on whom Dr. L. H. Sayre had operated by excision of the hip joint. About a year ago the patient had presented himself with the hip very badly deformed from long-standing disease. The thigh was flexed on the trunk at a right angle and abducted. A deep abscess was opened behind the trochanter and the acetabulum and femoral head were then found to be badly eroded. The femur was divided above the lesser trochanter, at right angles with the axis of the shaft, and the deformity was thus reduced by excision instead of by simple tenotomy, which had been proposed at first. The wound was stuffed with iodoform gauze, and, after two months' use of the wire cuirass, a long traction splint was applied, and the boy took a long journey to his home. At the present time there was no abduction, and but a trace of flexion, with some motion in the joint.

Dr. John Ridlon asked whether an operation would have been advised for the abscess alone. He had found that many abscesses were certain to disappear when the hip was properly treated mechanically.

Dr. Sayre said that, as the abscess was causing but little disturbance, he would have postponed operating on it if the child could have been kept under observation.

The Chairman thought that opening an abscess, if done at all, should, as a rule, be followed by excision, as in the case related by Dr. Sayre, on the ground that the presence of diseased bone was a greater evil than the presence of pus. He had seen no bad results follow letting the abscesses alone.

Dr. A. M. Phelps said that there were some abscesses which he would probably not open at once, but he believed the operation perfectly harmless, and desired to speak emphatically against the opinion that it was a dreadful and a dangerous thing to open these abscesses.

Dr. H. L. Taylor thought that, if rest and protection were secured for the joint, the occurrence of abscesses was not of serious import. The aspirator had failed in his hands, apparently because it left shreds of necrotic tissue which prevented the abscess from closing. It seemed wise in most cases to open freely, clean out easily removable *débris*, and close the wound. If sinuses remained, injections with a saturated solution of iodoform in ether would sometimes cause them to close.

Dr. L. A. Sayre said that, on the principle that an empty house was better than a bad tenant, he always evacuated an abscess as soon as found, and by doing this antiseptically, and securing thorough drainage, there was no danger of bad results.

Dr. R. T. Morris said that his usual custom was to open these abscesses at once, washing out with peroxide of hydrogen, removing *débris*, and establishing drainage. He related the history of a recent case in which this procedure, followed by traction in the line of the deformity, had secured a good result. He had recently performed excision in another case in which disease of the acetabulum and femur had been produced by the application by the physician in attendance of traction in a straight line, according to Thomas's method. In excising the hip, he usually made a section through the great trochanter in such a way as to allow the lesser trochanter to go into the acetabulum and so prevent the formation of a flail joint.

Dr. Ridlon did not think Thomas, of Liverpool, made traction in any line.

Dr. Phelps said that Mr. Thomas would treat a case when the leg was flexed at right angles by lashing the patient to the splint, and then with his wrench bending the splint down as nearly as possible to a straight line. That was a form of traction which produced great intra-articular pressure, and would, if continued for any length of time, produce destruction of the joint.

Dr. Ridlon said that he had used Thomas's hip splint in some twelve or fifteen cases with great satisfaction. He found it cheap and easily applied. It had not caused destruction of tissue, but, on the contrary, had relieved symptoms and promoted recovery.

Dr. L. A. Sayre said that it seemed as if the profession were determined to misunderstand him, for he had endeavored for years past to make clear what he meant by traction in the line of the deformed limb; it was to make traction in such a way as to separate the bone slightly from the base of the acetabulum, and so prevent pressure, gradually changing the line of traction until the limb was brought parallel with the other limb, and then apply the splint; whereas, if one employed leverage, as Thomas did, this pressure in the joint was only increased. Not until the limb was in proper position could the splint be applied to advantage. One objection to Thomas's splint was that there was no traction for overcoming muscular rigidity, and hence it seemed to be fixation only, and as such did not compare in point of efficiency with a properly applied plaster-of-Paris splint, for here the weight of the limb would produce some traction, and the plaster of Paris gave the necessary fixation. Another objection was that the patients wearing Thomas's splint could not sit down, whereas with a properly applied splint they could sit down with great comfort.

Dr. R. H. Sayre said that in the case presented the original intention had been simply to open and drain the abscess; but the diseased condition of the bones had rendered excision necessary. As regarded the conditions under which he would advise excision, if the leg were straight and the abscess causing but little disturbance, he would postpone the operation, provided the patient could be kept under observation; but if the latter condition could not be secured, he would be disposed to remove whatever disease already existed rather than allow the case to go from under observation with the disease ready to extend at any time.

Dr. Berg thought that the good condition of the patient in the present case justified operative procedure for the correction of deformity.

Dr. Taylor thought that excision might be required in neglected cases, of which there probably would always be a considerable number; but the operation should be looked upon rather as treatment of the results of neglect than as treatment for hip disease.

Dr. Phelps practiced excision by an open wound, leaving the periosteum to reproduce bone. The German surgeons removed the periosteum and capsule and tried to secure union by the first intention. Their results were shortening, flail joints, and relapses in a large percentage of cases. He referred to two recent cases of excision in patients thirty-four and twenty-three years of age. In these cases the femoral head was destroyed and the acetabulum extensively diseased, a condition in which removal of the disease was the most rational treatment. In one of the cases the head was found separate from the shaft. He had frequently found this condition, and believed that the head lying loose in the joint cavity was to be considered as a foreign body. It was better to remove it than to leave it to undergo decomposition and lead to septicæmia and amyloid disease. A more useful limb was left if the exsection included the trochanter. In general, he thought excision under the age of ten was a calamity. In the case presented, however, he thought the result was good, as extreme deformity had been corrected.

The Chairman thought that in excision we had no certainty of removing, together with the diseased bone, those portions which contained latent foci. He had found no method of determining whether the actual inflammation was the only outbreak to be feared, or whether it was to be followed by others. In some patients a single abscess closed the morbid process; in others one abscess followed another, showing that osteitis was lighted up successively in the neck, the head, the shaft, and the bones of the pelvis. An excision might fortunately remove all that was diseased, with a good immediate result; or it might leave dormant foci which came into activity one after another, and led to a tedious and unfavorable result. Ultimate good results were obtained in these difficult cases by management with the hip splint and without excision.

Miscellany.

The Necessity for a Higher Standard of Accuracy for Toxic and Narcotic Drugs.—"Show us," says the "Medical Age," "a physician or pharmacist who has not been many times puzzled by the variable action of toxic drugs, indicating lack of uniformity in preparation, and such an one will be found to have had no practice in either art. While the question of standardizing preparations of toxic drugs is not a new one, and has been the dream of every progressive pharmacist and physician, practically it would seem difficult to determine just what standard of strength to adopt. According to the Pharmacopœia, one cubic centimetre of a fluid extract represents one gramme of the drug employed in making it. It is apparent that such a preparation, although made from the best quality of drug the market affords, will not be of invariable strength. In the purchase of this crude drug the quality must be largely judged by physical indications, which are often very deceptive. An estimation of the active medicinal ingredients is the only true criterion by which to judge the quality of a drug; and this is subject, even in carefully selected drugs, to a wide variation. Fluid extracts must, of course, share in this variability. It is this defect which is to be remedied. That a pound of crude drug of good quality properly manipulated should produce a pound of fluid extract seems a good basis for operations; but when the variability of crude drugs, and the consequent variability of fluid extracts produced therefrom, is known, one can not but look forward to the advent of the new Pharmacopœia with the hope that some uniform and more reliable method of standardizing fluid extracts upon some safer and surer foundation, by which a preparation must be produced that can be used with more confidence in its definite therapeutic value, may be adopted. Individuals and manufacturing houses have in a measure recognized the necessity for such a standardization, and have in the past in various ways endeavored to meet the requirements of the medical profession in this respect. The result has been that there are already standardized preparations on the market, but these vary greatly in the strength adopted as the standard. There should be one only, and for this the Committee of Revision of the Pharmacopœia for 1890 should prescribe the process."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, JANUARY 11, 1890.

Original Communications.

RELAPSING DESQUAMATIVE SCARLATINIFORM ERYTHEMA.

By GEORGE T. ELLIOT, M. D.,
ASSISTANT PHYSICIAN TO THE NEW YORK SKIN AND CANCER HOSPITAL, ETC.

A REVIEW of medical literature shows that the qualifying term scarlatinoid or scarlatiniform has been applied to many cases in which there has been a cutaneous eruption bearing a more or less accurate resemblance to the one seen in true scarlatina, though there have not been at the same time the general systemic symptoms present which characterize that specific disease. Such eruptions have been seen to develop under the most various influences from the most divergent causes, and the majority could be attributed to some definite and tangible agent. But, on the other hand, there have been some in which the causative influence could not be demonstrated; they seemed to originate spontaneously, though they unquestionably must have had some exciting cause. The scarlatiniform eruptions belonging in the first category have thus appeared as expressions of a pure reflex vaso-motor disturbance coming immediately after operations upon or the wounding of portions of the body rich in nerves—a circumcision, an ovariotomy, etc., or even a natural labor—also developing twenty-four to forty-eight hours after severe operations or subcutaneous wounds, resembling a medicinal eruption and representing forms which can best be termed toxic erythemata. According to Hoffa, they are probably occasioned by the absorption of wound secretion, or particles of destroyed tissue elements, or perhaps fibrin ferment. Similar eruptions have been observed in peritonitis not septic in origin, and also when pyæmia and septicæmia have been present, and likewise in puerperal peritonitis. In the last three diseases the cutaneous manifestations were usually indicative of death. The occurrence of a scarlatinoid rash after tracheotomy for croup was noted many years ago, and also its occurrence in the beginning or course of several general systemic diseases—variola, typhoid fever, diphtheria, cholera, etc. Not infrequently such a rash has been observed in rheumatism, though more often in acute cases, and also in gout. It has been seen in the ague of young children, showing the same tendency to periodic return as the intermittent fever. Certain kinds of food—fish, shellfish, fruit, and vegetables—have likewise been known to produce a scarlatiniform eruption. This latter has appeared after the administration of anæsthetics and of other drugs—quinine, opium, belladonna, etc.—and it also has been seen in patients suffering from carbolic and bichloride-of-mercury intoxication. Among external causes, the sun, sea-baths, and mineral waters have been mentioned.

The cases forming the second group of the scarlatiniform manifestations differ from those just mentioned in that they seem to be idiopathic in origin, or, as Brocq has so admirably and tersely characterized them, they represent a form of pseudo-exanthema which simulates scarlatina in its quite sudden onset with fever, is accompanied by the eruption of an intense, diffuse redness, which tends to become quickly generalized over the entire body, and is followed by a dry, lamellous desquamation of squamæ of various sizes, according to different regions of the body, which begins to make its appearance even before the redness has disappeared. It lasts from two to six weeks; occasionally the hair and nails are attacked and shed. It can relapse many times, and then each attack seems to be shorter and less severe.

Cases belonging in this group were described fully a century ago under other names, but their recognition as forming a morbid entity and their special characterization were first made by Besnier-Féréol, who also suggested the name of "relapsing desquamative scarlatiniform erythema." Since that time other cases have been described, but they are few in number. Brocq, in an earlier article, was only able to collect fourteen incontestable ones. Their pathological basis and the causes which operate in producing their cutaneous symptoms are also more or less wrapped in obscurity. Vogler, however, reports a case which developed after an involuntary cold bath; Burkhardt, one preceded by a severe attack of intestinal catarrh. Bussy ascribes its appearance to individual idiosyncrasy. Grindon considers it to be of gastric origin, but still the majority of those referring to or describing the eruption state nothing in regard to its possible causation. The obscurity surrounding this erythematous affection requires, consequently, that all unmistakable cases should be carefully observed, described, and recorded, in order that when a sufficient number have accumulated they may be analyzed, and perhaps then some general law governing all of them may be formulated or their definite nature be discovered. It is for this reason that the following case of relapsing desquamative scarlatiniform erythema is reported, fortunately in a detailed manner, owing to the patient being a woman of considerable intelligence, who, much concerned about her disease, had conscientiously noted all the facts in regard to it from its very inception:

P. H., female, aged thirty-nine, German, consulted me in the Outdoor Clinic of the New York Skin and Cancer Hospital (Dr. Bulkley's service) on March 11, 1889. She stated, when questioned about her antecedent history, that while a young girl she had always enjoyed good health. Menstruation and other physiological functions had been in every way normal. She was married at the age of twenty-seven and had had her first child in 1879. The pregnancy had been a normal one, labor natural, except that the placenta had been adherent. She resumed her duties at the end of eight days feeling perfectly well. The menses reappeared at the regular time the month after confinement, being natural in every way, but after its cessation there was a feeling of weight and considerable pain in the left pelvic region, intensified by walking or long standing. These symptoms persisted until she became again pregnant, when they ceased, to return after labor, and since that time they have always been more or less present. In her second confinement everything was natural, except that the placenta was again adherent. Her husband dying shortly after the birth of the second child, she emigrated to this country in 1884, and went into service, doing general housework. In January, 1885, she cut the palm of the right hand at the base of the little finger with a knife. The wound was painful, the finger became stiff and powerless, and the loss of power gradually extended until the entire hand was useless. She was treated at dispensaries and by physicians, but without result, and finally entered a hospital at the end of February, 1885. After being there a few days, the hand became swollen, she was greatly prostrated, had fever, nausea, and severe pain throughout the lower abdomen and the pelvic region. At the end of a few hours a bright-red punctate rash appeared on the chest, became confluent, and rapidly extended over the entire body. Menstruation began on the following day, there being severe pain. The redness lasted about four days, the eruption being very itchy. Desquamation began immediately and continued for three weeks. The hand improved slowly and she left the hospital the first week in April. In July, 1885, there was a recurrence of the eruption. Its appearance was preceded by the same general systemic symptoms as were observed at the time of the first attack, menstruation came on the following day, and the objective cutaneous symptoms were the same as in March. In the interval between these two outbreaks the patient had been well, except at the menstrual epochs, when she had suffered from nausea, gastric disturbance, a burning sensation in the back, and swollen feet. In September, 1885, there was another attack clinically similar to the two others. It was preceded for several days by fever, gastralgia, ovarian neuralgia, bearing-down pains in the pelvis, and swollen hands and feet, and was followed the next day by the appearance of the menses. The patient remained well until January, 1887, when she suffered in a similar way. She was married a second time in the spring of 1887. Attacks of the erythema attended by the usual train of symptoms occurred the day before the period in July, 1887, and in April, 1888, the patient remaining well in the interval, except for general distress at monthly periods. She had become pregnant in March, and in April, 1888, at the regular time for the menses to appear, an attack of the erythema supervened instead. This was repeated again the following month—May. No further attacks occurred until October, 1888, when her pregnancy terminated by a miscarriage. She says she suffered severely and was much weakened. The child—a seven-months' one—died at the end of five days. While she was still in bed, the cutaneous eruption appeared, being in every way identical with the previous attacks. In November there was again a relapse of the erythema accompanied by severe menorrhagia. Recurrences of the affection were observed in December, 1888, and in January, February, and March, 1889. In the last six relapses, the appearance of the rash was preceded not only by the symptoms already mentioned, but also by chills, great nervousness, melancholia, occasional dizziness, and excessive sweating, and it was followed in from twelve to twenty-four hours by the menses, except in the one which occurred in October. The redness lasted from one to three days, the desquamation of the epidermis sometimes beginning while the rash was still present, but more often after its disappearance, and then lasting for from three to four weeks. Severe itching was always present while the redness lasted, but it disappeared with the commencement of the scaling process.

When the patient was seen by me in March, 1889, desquamation was progressing. She felt quite well, though she complained of nervousness, globus hystericus, and constipation. There was also some ovarian tenderness, and, when later she was examined by Dr. Outerbridge and Dr. Bushong, at the Demilt Dispensary, the uterus was found to be quite large and in a condition of subinvolution, the left ovary prolapsed, and the tube twisted so that the organ lay behind the uterus. It was enlarged and quite tender. The character of the desquamation varied according to the regions of the body. It was not very abundant. On the trunk there were small, dry, white scales, which came off freely, but on the arms and legs they were more adherent and larger. Some, as large as a small finger-nail, could be stripped off, and there were here and there patches of variable extent, which, bounded by ragged epidermis, had the appearance as though this latter had been worn off. On the hands and feet the scaling began a little later, and here large lamellæ, half an inch to three quarters in length, could be pulled off. The face was unimplicated. The patient was given cascara sagrada. The skin became normal by March 26th, and the patient remained well until July, being all the time under the same treatment. On the 8th of that month she reported that the menses had begun on the 1st, but, without any cause known to her, they had ceased suddenly on the 3d. On the 5th, 6th, and 7th she had suffered severely from cramps and a slight diarrhœa, which had, however, stopped. She denied taking anything whatever, except tea and toast and hot milk. On the day she was seen she had had general malaise, nausea, eructations, and dizziness, and these were followed, at the end of a few hours, by the appearance of the rash. The woman was excessively nervous and hysterical; complained of hiccough and globus. Her temperature was 100° F.; pulse, 96. The eruption, which had begun on the chest, as in the previous attacks, had rapidly extended over the body, and when the patient was examined it was found to reach down to the knees and upward to the neck and over the shoulders to the middle of the upper arms. The face was free and remained so, but the redness developed in a few hours upon the entire extremities, hands, and feet. The mucous membranes of the mouth and throat were normal in every way, only the tongue was covered with a whitish coat. A specimen of urine was obtained. No albumin was present, nor, on further examination, anything abnormal.

The trunk was diffusely bright-red, and the extremities became also similarly affected; but when the patient was first examined it was seen, on the upper arm and near the knees, that the eruption primarily consisted of slightly elevated punctate spots, and it was by their aggregation together that the diffuse patches were formed. There was, however, no appreciably swollen appearance of the skin, nor were there any miliaria lesions, as mentioned in some cases, nor any evidences of exudation. Severe itching was complained of. This attack, the first which had developed after the menses, was a slight one. The redness disappeared at the end of twenty-four hours, the affected portions having, however, a yellowish color; the neurotic symptoms became much less evident. Desquamation, however, did not begin until five days later—the 14th—manifesting itself first upon the chest and arms and, two days after, upon the lower half of the body. In character it was similar to that seen after the March attack, except that the lamellæ were larger on the hands and feet, and the squamæ on the trunk also. The surface from which they came off was dry, never moist. The desquamation lasted three weeks. The hair did not fall out, nor were the nails affected in any way whatever. No medicine had been given during this attack. The patient remained in a nervous, hysterical condition; complained of globus, hiccough, gastric and general malaise, which lasted, in a more or less marked degree, until the next attack, which occurred September 10th, two days after cessation of the menses. Previous to the appearance of the eruption she had suffered from vertigo and general malaise, but no pain in the abdomen or pelvis; the period had been scanty and ushered in by severe pelvic pain. The eruption began on the chest and extended over the entire body except the face, and in character was the same as in the previous attacks observed. The redness lasted only twenty-four hours, and desquamation began immediately, continuing for three weeks and offering the same symptoms as previously described. At the inception of the eruption the temperature was 99·6° F.; the pulse, 102. Following this attack there was a marked condition of hysteria; the patient became melancholic, neglected her household duties, and would spend hours doing nothing but sitting quietly. At the end of a few weeks she began to have a period of excitement, to abuse her husband, seemed to have a great fear of something or other, and finally, in the middle of October, had a somewhat severe attack of hysterical mania. Since that time I have not seen her and do not know the outcome of the case. The last particulars were given me by her husband.

When the history of this patient is analyzed and considered, there appear to be several factors in it which do not seem to allow its being included among those cases which constitute the idiopathic form of the scarlatiniform erythema. These are the inception of the disease while the patient was suffering from the results of the wound in her hand, and also its occurrence immediately after her confinement in October, 1888. The first may, however, be excluded, I think, inasmuch as the scarlatiniform eruptions developing after wounds appear in a few to forty-eight hours and not some weeks later. The second factor, also, does not seem important, owing to the fact that the cutaneous symptoms not only preceded that date for several years, but also appeared frequently subsequent to it. On the other hand, in the symptomatology of the eruption, its course, duration of the redness and desquamation, its frequent relapses, etc., it agreed so closely with the other cases constituting the group first definitely characterized by Besnier-Féréol, and subsequently treated of by Brocq and others, that I do not hesitate in considering it as an example of relapsing desquamative scarlatiniform erythema. There does not seem to be any reason to regard it as a drug eruption. While under my care she received only bicarbonate of sodium, fluid extract of cascara sagrada, tincture of nux vomica, and tinctura ferri pomati. Their administration was not succeeded by any eruption, but this latter appeared as readily when she was not receiving any of these drugs as when she was. She stated most emphatically that she never took any drugs to alleviate her menstrual pain, and, as she was intelligent and eager to be rid of her distressing complaint, the possibility of such being the case was laid before her. Still the patient earnestly denied that such could be the origin of her trouble, and, following my advice, refrained from all possible ingested substances that might exert any influence upon her.

The study of the history seems to me to point to the condition of the generative organs as the active cause in the appearance of the cutaneous eruption. The uterus was in a condition of subinvolution, the left ovary prolapsed and lying behind the uterus; the eruption occurred with the strictest regularity only at the menstrual epochs, immediately preceding the menses every time, except in the last two attacks, when it appeared a few days after the sudden cessation of the flow, which had been scanty and not normal; it did not manifest itself at any other time of the month; its development in April and May, 1888, at the time the period should have begun, but did not, owing to the patient being pregnant. These factors, pointing to an apparent constant relationship existing between the physiological functions of the generative organs and the eruption, seem to me to distinctly accuse the abnormal condition of the uterus and left ovary as being the starting point and inducing cause of the cutaneous manifestations. It is true that this abnormal condition had probably been present for a long time previous to the first appearance of the skin eruption—in both confinements during her first marriage the placenta had been adherent, and between the two pregnancies and after the second one she had suffered from pelvic pain, a sensation of heaviness in that region, etc.—but still it may be that it was not sufficiently severe in degree to exert any other than a local influence at the times of the period, or that a further impulse was needed for the manifestation of reflex phenomena of some sort or other. Such an impulse may have been the wound of the hand, which caused considerable mental worry, depression, and anxiety for the future owing to the loss of use of the hand—in other words, there was, in consequence, a lowered tone of her general nervous system. On the other hand, it may be that this had nothing to do with the matter, but that the ovary becoming steadily larger, owing to the constant irritation it was subjected to from its prolapsed position, there was finally a climax reached, which then led to the exhibition of the various reflex symptoms seen in the case. As might be expected, the ovarian disturbance would be intensified at the time just preceding the menstrual epoch, on account of its increased congestion at those periods, and in consequence the general systemic and gastric malaise and disturbance, the pelvic pain, the hysterical and other nervous symptoms would be brought about. Such conditions are constantly met with in women suffering from uterine and ovarian disease, and there are very often associated with them various cutaneous eruptions, so that it does not seem to me incorrect to attribute in this case the general systemic and skin symptoms also to the abnormal conditions existing in the pelvis. The occurrence of the last two attacks after the period does not invalidate the conclusion owing to the fact that menstruation both times was not natural, but ceased suddenly, having been scanty, conditions which would conduce to irritation of the pelvic organs; nor would the appearance of the erythema in April and May, 1888, during the first months of pregnancy, destroy it, because the uterus must have been at that time larger and also when impregnated lies lower in the pelvis in the first months, only rising toward the end of the third and the beginning of the fourth month. The prolapsed ovary would, therefore, have been subjected in those months to greater pressure and also exposed to greater irritation. That the erythema appeared only at the date when the menses should have begun seems to me clear for the reasons given, but why it did not appear at every menstrual epoch is, however, a fact for which no explanation can be given by me. Nevertheless, the connection between the abnormal conditions of the uterus and ovary and the appearance of the eruption seems to me a very evident one, though absolute proof, such as would have been furnished by ablation of the ovary and cure of the subinvolution and consequent cessation of the attacks, can not be given, owing to the refusal of the patient to subject herself to the necessary treatment. Removal of the ovary was not recommended at the time she was under treatment, but

I strongly advised her following the directions given her by Dr. Outerbridge and Dr. Bushong; still she would not do so. The manner in which the disturbances in the pelvic organs could operate would have to be a reflex one necessarily, according to the view taken of the case, and therefore the cutaneous symptoms have to be regarded as an expression of a reflex angioneurosis. Whether in all cases of the affection a definite reflex origin will be demonstrable it is of course impossible to premise. In this case, however, that fact seems to be not only presumable but probable. The history has been detailed, however, especially for the purpose of adding one more to the small number of examples of relapsing desquamative scarlatiniform erythema. In time, perhaps, an accumulation of such cases may lead to their entire comprehension and classification.

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No. 7 WEST THIRTY-FIRST STREET.

A RARE FORM OF INTESTINAL STRANGULATION BY A BAND.

By ROBERT ABBE, M.D.,
SURGEON TO ST. LUKE'S HOSPITAL, ETC.

THE accompanying narrative of a case and the illustrations of it will be of interest to all students of abdominal surgery, as representing a typical history of strangulation and showing one well-defined method by which that was brought about:

This woman, aged thirty-five, had a preceding history of a short attack of peritonitis two years before. Otherwise she was in perfect health up to the moment of seizure, which came as suddenly as a hernial strangulation. October 1st, the attack commenced abruptly by hypogastric pain with vomiting, not accounted for by indiscretion of diet. Complete constipation succeeded. There was no rise of temperature. The pulse was very little disturbed. Her physician, a distinguished practitioner of this city, gave her enemata, calomel, and other purgatives in vain. Not even wind passed the bowel. Vomiting increased, and on the third day became stercoraceous. The abdomen became tympanitic, but showed no tumor or dull place to suggest the seat of obstruction. At the end of the fourth day she was still vomiting not only whatever she took, but much thin, feculent fluid from the distended bowel.

At this juncture I first saw her and learned that for six hours already she had shown a characteristic apathy and exhaustion then evident in her face. Her temperature was normal, her pulse 100 and weak. It was evident at a glance that immediate laparotomy was the only hope, and that was not great considering the facial expression, which suggested fatally strangulated hernia cases to me. Within an hour laparotomy was done under ether. The abdomen was filled with greatly distended and highly congested small intestine, among which was seen a coil of small, pale, and empty bowel. This, as well as the distended portion, on being followed, was found to dip into Douglas's *cul-de-sac*. The Falloppian tube on each side was turned backward to the sacrum and fixed by adhesion so as to form a tight pocket behind the uterus in which were held two knuckles of healthy bowel and one strangulated. An attempt to remove these was futile on account of the mechanical fixation and risk of tearing.

The patient's condition flagged so at this juncture that it became necessary to do an ileostomy as quickly as possible and leave the rest to future operation.

She vomited the same feculent matter twice after operation, but lived five hours and died of shock of strangulation.

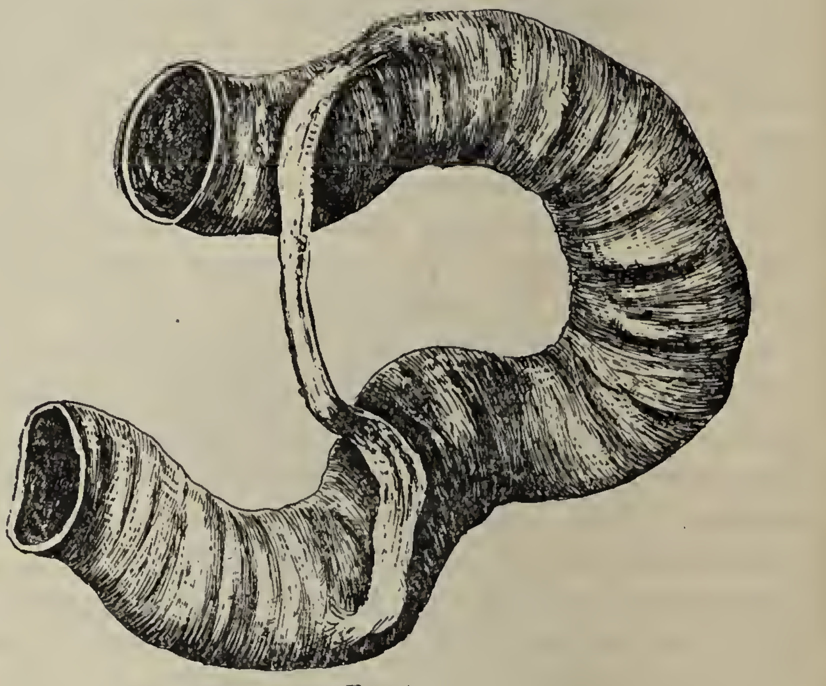

FIG. 1.

An examination afterward showed the condition so beautifully depicted by Dr. H. Macdonald in the accompanying drawings from nature and from my sketches.

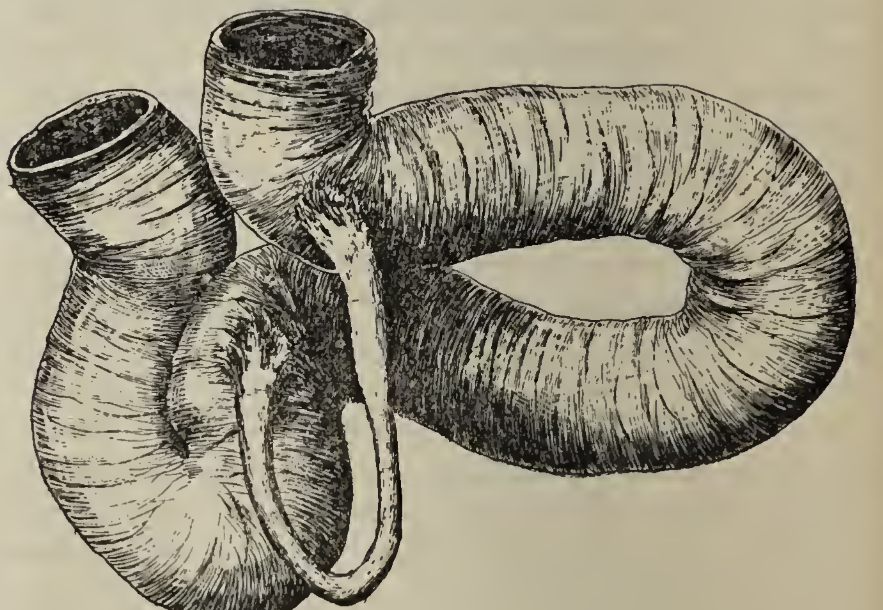

FIG. 2.

The *modus operandi* of the fatal trouble was not at all clear at a glance, and it was only after I had sketched out the backward steps of the loop-forming band, as shown in Figs. 1, 2, and 3, that the method was apparent by which the pliant band had been thrown like a lasso around a loop of intestine to which it itself was attached. The adjacent bowel had for two years been twisting itself in fantastic peristaltic changes with this murderous noose lying innocently by it, until by coincidence the loop and the noose fell together, and the former was instantly snared.

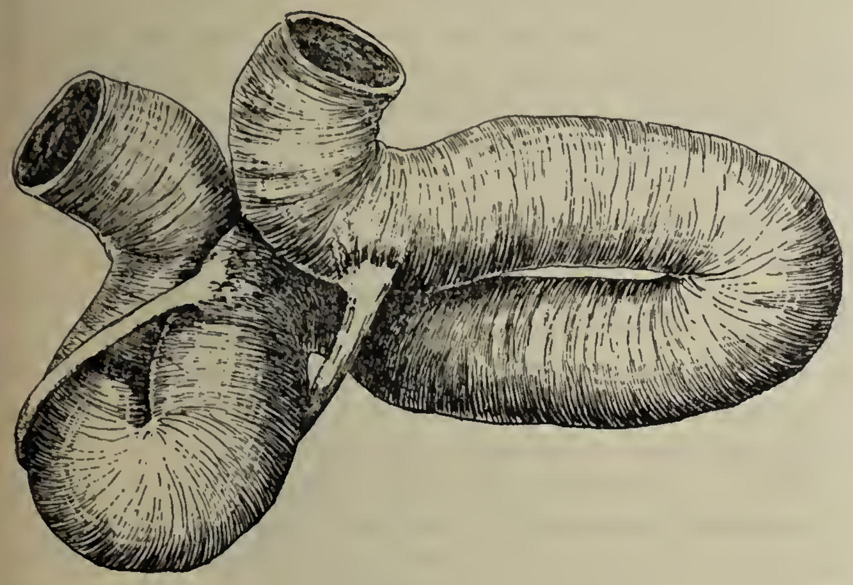

Fig. 3.

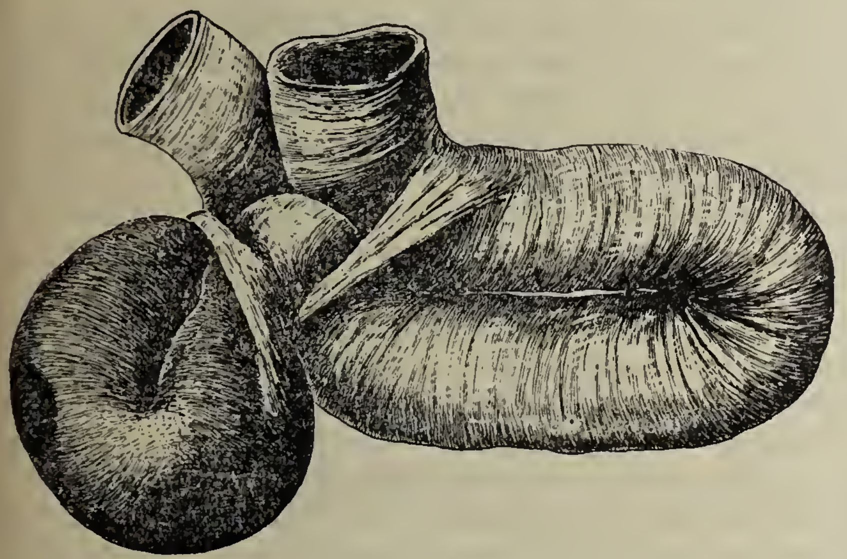

Fig. 4.

In Fig. 4 is shown the exact condition of the strangulation, while in Figs. 1, 2, and 3 are shown the steps leading up to it. The coats of the bowel had already begun to show gangrene along the line of pressure of the sharp cutting band.

11 West Fiftieth Street.

A CASE OF DISLOCATION AND FRACTURE OF THE SEVENTH CERVICAL VERTEBRA,

WITH PARTIAL RECOVERY FROM THE PARALYSIS, AND PROLONGATION OF LIFE FOR MORE THAN A YEAR.

By EDWARD S. DWIGHT, M. D.,
SMYRNA, DEL.

I was called on the 15th of October, 1888, to see Mrs. S. A. M., the wife of a well-to-do farmer living about three miles from this town; the patient, a large woman, aged fifty-five years, having, while descending the back stairs, caught her foot in the folds of some linen which she was carrying, and fallen to the floor below. This staircase is steep and crooked, the lowest steps projecting into the dining-room. Above these last steps is a doorway, within which the stairs turn at right angles and ascend parallel to the partition wall of the room.

No one was present when Mrs. M. fell, but she remembered that she was coming down stairs at the time. When discovered by the members of her family she was lying in a dazed condition at full length upon her back on the dining-room floor, her feet directed toward the bottom of the steps. From this it would appear that she must have fallen sideways against the door-post, probably coming against it head first, her body then rebounding backward through the open doorway down the remaining steps into the room below.

When picked up she was completely paralyzed except in the muscles of the face, and she complained of pains in the back of her neck whenever she was moved. Her respiration was entirely diaphragmatic, but was regular and easy. She could not feel the inflation of the chest below the line of the third or fourth rib. Examination along the backbone revealing absolutely nothing, a probable spinal concussion was suggested to the family as the cause of the paralysis; the patient was placed in bed, a mixture containing ergot, bromide of potassium, and belladonna was prescribed, warm applications were made along the spine, and the use of the catheter was commenced, its systematic employment being enjoined upon the patient's daughters. Several days, however, elapsing without bringing any decided change for the better in her paralyzed condition, the diagnosis was changed to that of probable fracture of some one of the lower cervical vertebræ.

Not long after the accident a black and blue spot appeared over the sacrum. This broadened day by day until an enormous bed-sore was formed. The early appearance of the eschar was supposed to be due to the violent blow necessarily received by the patient upon that part of her spine during the fall. A much smaller but very deep slough also formed simultaneously at the angle of one of the lower ribs, on the left side.

Gradually, as weeks passed by, a certain degree of motion returned to the upper part of the arms, and the patient became able to move her shoulders and elbows a little. She also began to experience a great deal of burning and tingling in the lower limbs, and would complain of the tickling whenever the soles of her feet were touched. By careful experiment, however, we satisfied ourselves that this last sensation was an imaginary one on her part, as she did not notice our touching her feet when she was looking in another direction or attending to something else.

She did not at this time complain of the peculiar constricted feelings of meningitis, nor were there any muscular twitchings. Her urine was, of course, constantly alkaline and charged with phosphates and with vesical mucus. Mild cathartics were administered every third day during nearly the whole of her confinement to bed, and answered the purpose very well. The sores were kept washed with alcoholic and astringent lotions, and their edges protected with zinc ointment. Charcoal bags were used to absorb the odors, and a hole was cut out of the mattress so that there might be no pressure upon the larger sore. With a view to possibly limiting the extension of the latter, a weak but permanent galvanic current was tried, the negative pole being connected with a large sponge beneath the sacrum, the positive being in contact with the patient's side. As the whole of the back appeared red and angry, it was daily sponged with alcohol and water, and afterward greased with vaseline. For a time belladonna ointment was daily applied along the spine, and small doses of ergot and bromide of potassium were given internally, with one-eighth-grain doses of the protiodide of mercury to limit effusion. This internal medication was stopped as soon as the symptoms of spinal irritation abated.

A week or two after the accident a lump appeared on the left side of the vertebral column, at the level of the seventh cervical vertebra. It was quite perceptible to the touch, and I considered it due to the formation of callus.

As the sloughs slowly separated from the living tissues around, the patient began to manifest symptoms of septicæmia, with great prostration, sleeplessness, and want of appetite. Her feet and knees were swollen, and large quantities of albumin were found in her urine. She was at once put upon iron, the mineral acids, quinine, and milk punch, and the kidneys were washed out by means of the infusion of digitalis. A consultation being decided upon, Dr. Thomas G. Morton, of Philadelphia, saw her with me on the 9th of November, at which time she was in a very low condition. He agreed with me that a cervical fracture was probable, but not capable of actual demonstration, though the small lump above mentioned might perhaps be due to the throwing out of callus. As the family suspected a second fracture lower down, at the seat of the larger bed-sore, Dr. Morton made a digital examination *per rectum*, but could detect no such lesion there. He next advised the immediate removal of the necrosed mass over the sacrum, now freely separated all around, which was at once performed. He also recommended a water-bed, which we procured from Philadelphia on the following day.

At the time of Dr. Morton's visit a very slight reflex could be excited by irritating the soles of the feet; but this subsequently disappeared.

The source of the blood-poisoning removed and the patient placed on the water-bed, she at once began to improve rapidly, her appetite returned, sleep became regular once more, and emaciation ceased to progress. The albumin, too, disappeared from the urine. At Dr. Morton's suggestion, I now commenced the use of strychnine (which I gave in the form of the tincture of nux vomica), and kept up its use for quite a while.

Early in December the fracture seemed to have consolidated and the patient began to move her head with ever-increasing freedom. It soon began, however, to incline perceptibly to the right side, a position which it maintained up to the time of her death. On the 18th she had a slight attack of remittent fever, which yielded in the course of a few days to quinine. In January another similar attack occurred, together with a severe bronchitis, in which she had great difficulty in expectorating, from the paralyzed condition of the thoracic muscles. During this time the bed-sores contracted greatly and granulated in so fairly satisfactory a manner that we commenced skin-grafting; this soon reduced the raw surfaces considerably.

Symptoms of lateral sclerosis now became evident, contractures taking place in the upper extremities, to which they were always limited. The arms were strongly flexed at the elbows, the hands being extended backward upon the wrists with the fingers nearly straight and the thumbs drawn laterally into the palm. There were constantly present more or less severe neuralgic pains in both arms, but particularly in the left, with soreness to the touch, so that she suffered acutely when turned upon her side, as she daily was, in order to dress her back. These pains yielded somewhat to heat and frictions. As emaciation had again become progressive, weak faradaic currents were used to the limbs and arms to promote circulation; and, as I strongly advised the systematic use of the constant current, Dr. G. Betton Massey, of Philadelphia, was called on the 16th of March to superintend this part of the treatment.

When he first saw my patient there was an exaggeration of galvanic and an entire absence of faradaic response in the lower limbs, and in place of the knee jerk there was a sharp pain high up in the spinal cord. Both currents produced contractions in the muscles of the arms. Dr. Massey then outlined a course of galvanic treatment to be pursued every day, together with systematic massage and passive motions of the stiffened joints, and continued to see the patient with me at intervals until the time when hope had to be abandoned.

On the 21st of the same month she had a severe attack of capillary bronchitis, which lasted for a week. It was accompanied by considerable fever, and at night by an enormous secretion of viscid mucus, which she was able to expectorate only at the price of the greatest effort. I considered these nightly exacerbations as due to periodical malarial congestion, and used quinine freely. Hot poultices and expectorants were of little avail at such times, and it was found impossible to produce emesis. So I tried steam sprays of tar, benzoin, and trypsin, but found that sprays of a strong solution of bicarbonate of sodium were particularly useful in lessening the viscidity of the secretion, and thus promoting its expectoration.

As soon as Mrs. M. had entirely recovered from this attack the electrical treatment was resumed in earnest, the galvanic application covering a half hour daily and the massage and passive motions being done frequently in the course of every twenty-four hours by the nurse. The galvanic apparatus used was one of Flemming's thirty-cell portable batteries, and only sufficient current was employed to produce good muscular contractions (about eight freshly charged cells for the arms and fifteen for the legs).

On May 15th the electrical record was as follows (copied by kind permission of Dr. Massey):

Galvanic.—Left leg: Peroneal response bad; thigh and calf good. Left arm: Good response in flexors of the arm and extensors of the hand. Right leg: Calf response good; peroneal, slight; thigh good. Right arm: Response of the extensors of the hand and of the flexors of the arm good; a trace of response in the flexors of the hand and the extensor of the arm.

Modal and qualitative changes of degeneration reaction invariably present.

Faradaic.—Right arm: Slight response in the extensors of the hand and in the flexors and extensors of the arm and the shoulder muscles. Right leg: Response in the anterior muscles of the thigh and slight response in the muscles of the calf; no peroneal response. Left arm: Slight response in the extensors of the hand, and good response in the flexors of the arm and in the shoulder muscles. Left leg: Response in the anterior muscles of the thigh, and slight response in the peroneal and gastrocnemii groups.

On May 28th faradaic response was found also in the flexors of the left hand. On June 12th the peroneal response of the left leg to the galvanic current was found to be good, and by October slight faradaic reactions were found in the flexors of the right hand and in the right peroneal muscles. During this time the symptoms of sclerosis retrograded steadily. The patient regained a very fair degree of motion in her neck, shoulders, elbows, and wrists, the contractures disappearing to a great extent. She ultimately became able to pronate and supinate the forearms, to raise her shoulders from the bed and to arch her back, and, lastly, commencing motion was evident in the forefinger of her right hand.

Early in the summer I designed a reclining chair for her, which was constructed at a manufactory in this town. The chair, which had a back- and foot-rest adjustable at any angle, was really a commode, and, the back part of the seat being hinged, its front could be elevated by a crank, so that the patient could not possibly slide out. The back was so constructed that no pressure was made upon the spine, and the patient sat on a ring pillow half filled with water. The whole was mounted on large rollers. As she recovered some power of motion she would sit up for hours at a time and read the papers, which were placed upon a bracket screwed to the arm of the chair.

The course of electrical treatment was several times interrupted, however—in the first instance apparently in consequence of the use of sulphate of strychnine, which I was giving her three times a day in one-sixtieth-of-a-grain doses. This produced after a time twitchings of all the muscles of the paralyzed parts, with greatly exaggerated reflexes, burning sensations, an uncomfortable feeling in the rectum, and the well-known feeling of a tight cord about her body. At night there were hallucinations and mild delirium. The strychnine was at once laid aside, and in a week or so these untoward symptoms subsided. (I afterward learned that a peculiar idiosyncrasy existed in her case in regard to the drug.)

From time to time I examined her urine. It was always charged with mucus and usually loaded with phosphates, though I gave her the mineral acids pretty frequently. At intervals she would pass small phosphatic calculi, on one occasion voiding as many as nineteen. At such times her urine would escape involuntarily, though ordinarily catheterization every three hours sufficed to keep the bladder empty and the bed dry. She could tell when the bladder was full by a peculiar feeling of warmth. This sensation also replaced the pain of strong electric currents in her lower limbs. She could feel the latter acutely, however, when applied to her arms. Under the electrical treatment she regained sensation in the chest and abdomen, as well as in the upper part of the back to a great extent. When she commenced passing calculi I began to wash out the bladder at intervals, using boric acid and a weak solution of permanganate of potassium alternately.

The sacral bed-sore cicatrized slowly up to the time of her death. We tried sponge-grafting early in the summer to hasten healing, but without good result. Occasionally small sloughs would form in various parts of the limbs, but soon separated and filled up. A second attack of delirium and wakefulness coming on and not yielding promptly to treatment, I examined her urine and found it loaded with albumin. A hydragogue cathartic and a large dose of the fluid extract of ergot enabled her to sleep and dissipated the delirium. From that time until her final attack she was very comfortable though weak. She died November 11, 1889, of Bright's disease, nearly thirteen months after her accident, the manner of death being by œdema of the lungs. There was no dropsical effusion anywhere visible externally, and the kidneys continued to excrete large quantities of urine of a low specific gravity almost to the last.

The spinal lesion was found after death to have been a rotary dislocation of the seventh cervical vertebra, its body being carried toward the left and the spinous process toward the right. There was also a fracture at the base of the left lateral process. The cord was not examined.

I do not consider the case so noteworthy by reason of the length of time elapsing between the accident and the patient's death as I do on account of the great improvement produced in the sclerosed condition of her spinal cord by the action of the galvanic current. Had it not been for the renal complication, Dr. Massey and I are both convinced that she would ultimately have regained at least the use of her hands.

Sterilized Lint.—"M. Regnier renders lint sterile by heating it to a temperature of 120° C. (248° F.). He has tested the antiseptic value of lint thus prepared in dressings applied after operations of various kinds with good results. At a recent surgical congress he stated that he considered sterilized lint equal to antiseptic dressings."—*Druggists' Circular and Chemical Gazette.*

THE HEALTH DEPARTMENT AND THE CONFERENCE COMMITTEE OF THE ACADEMY OF MEDICINE.*

By JOSEPH D. BRYANT, M. D.

But a short time since, the president of this honorable body addressed to me a communication, inviting me to present a paper "on some subject that might be of interest to the Academy and to myself." To be thus invited I deemed a matter of no small honor, but to meet fully the conditions of the invitation was esteemed a task which, to say the least, implied a labor of much thought and care, and perhaps not a little self-assurance as well. To speak of matters interesting to one's self should be quite as easy as to eat and drink of those things that please the fancy of one's palate. But to speak of matters to others that interest only one's self is frequently akin to addressing one's self, and often 'tis much less kind. There is one subject, however, that is of deep significance to us all—one subject in which all of mankind alike cherish a deep personal interest—the preservation of the health of the public and its associated prosperity and happiness. While I do not believe this to be the only subject in common with myself and the fellows of the Academy, still I do believe that it is one which can be well considered by us at this time with marked mutual benefit, and with great advantage to those whom we serve alike—the members of the indulgent public. The subject which I have chosen for the evening's paper is one which is certainly of great interest to the Health Department, and it should be of equal interest to the medical profession of this city. I know of no good reason why legalized action for the prevention and treatment of disease, as it is embodied in the Health Department of this city, should not cherish the earnest support and the hearty co-operation of that profession which seeks the same end, although by a somewhat different means. It is true, no doubt, that unavoidable friction may arise when two such powerful bodies as these seek a common result by means not altogether parallel in the lines of action. But since friction is equally liable to happen in other matters, both of a worldly and spiritual nature, and, too, since friction is found to be a part of the process of evolution toward the attainment of higher aims and better things, let us therefore, while not fostering its development, recognize and respect its presence, that we, too, may emulate the attainments in other things through the influence of its salutary effects.

Friendly and considerate friction makes good friendship the brighter and keener, but unkind and thoughtless opposition darkens, dulls, and often destroys it, substituting confusion for order, defeat for victory, disaster for success, and, not infrequently, death for existence. In 1887, if not before, the commissioners of the Health Department recognized the fact that a successful administration, in the full sense of the term, of the requirements relating to public health in this city needed for its consummation the sympathy, advice, and support of the medical profession of the city. The opinion of 1887 has since that time been developed into a fixed certainty, and the Health Commissioners of 1889 desire at this time to freely thank the fellows of the Academy for the aid rendered the department in the near past, and to solicit the continuance of the same confidence and consideration for the department and for the public good that prompted its action at that time. A little more than two years ago to-night it was both a pleasure and an honor for me to read a paper before the Academy at the urgent request of Dr. Jacobi, the then president of the Academy, on the following subject: "How the Medical Profession can aid the Board of Health." In that paper it was said, among other things, that "the medical profession could aid the Board of Health in a most signal manner . . . by the appointment of a conference committee from your members at once of not more than five (5) members, which committee shall confer with the Health Department on all matters of health relating to the general public when requested." By authority of the fellows then present, the president appointed as the members of this committee Dr. C. R. Agnew, Dr. E. G. Janeway, Dr. Stephen Smith, and Dr. Richard H. Derby, and, at the request of the Academy, the president, Dr. Jacobi, became a member. I hope I express myself with becoming modesty when I say that no wiser suggestion than this has been proved to be had been made by the Health Commissioners to the medical profession before nor since that time. The support which this committee gave to the Health Department during the time of the threatened importation of cholera and small-pox can not be fully appreciated except by those immediately cognizant of its aid and the imminence of the danger. Finally, to crown its usefulness in the interest of the public at this time, His Honor, Mayor Hewitt, referred to this committee the question of the necessary steps to be taken to afford protection to the city from imported disease. The committee's report and recommendations formed not only the stimulus, but the basis that caused sufficient appropriations to be made to meet the exigencies of future similar demands at Quarantine. Well indeed did this committee perform the labors asked of it, and I am sure that its living members will proudly acknowledge that the completeness of the report was largely the result of the assiduity of the then chairman, the public-spirited and indefatigable Agnew. During Agnew's life no one could justly profess to be a more faithful and unbiased public servant. He served the public for the public good alone, not for private gains, nor for personal aggrandizements. He sacrificed his health, comfort, and fortune to better the physical condition of his fellow-beings, and to advance them to a higher moral plane. While my acquaintance with Dr. Agnew had been scarcely more than a casual one prior to my appointment as commissioner, yet from him promptly came the first letter to me tendering his counsel and support in the performance of my official duties when they might be requested. No greater earnest of his noble intent can be given than the following letter, addressed to me in reply to a communication of mine asking a conference with him regarding matters of importance in the Health Department:

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* Read before the New York Academy of Medicine, December 5, 1889.

Montauk, L. I., *July 30, 1887.*

My dear Doctor: Your esteemed favor of 27th inst. reached me here at this *ultima Thule*, twenty-five miles away from a railway, last evening. It would be indeed a privilege for me to talk with you on the subjects to which you refer if I were within talking distance. I came away on Thursday last after a steady pull at work, and not intending to return for some weeks. I am entirely at your service, however, and will come up immediately to the city if I may in any way assist in the good cause to which you have, with such public spirit, devoted yourself. A telegram sent in the morning before ten o'clock, addressed as follows, would reach me here before bedtime: C. R. Agnew, care of Conklin, Montauk Express, Easthampton, L. I. A letter addressed Montauk, *via* Easthampton, L. I., mailed in the evening at New York, will reach me here the next evening. Do not consider my convenience or supposed ease if I can serve you in any way.

Faithfully yours, C. R. Agnew.

Joseph D. Bryant, M. D.

Surely Agnew was

"True as the needle to the pole
Or as the dial to the sun."

Since the reading of the paper of two years ago, in which the general plan of working of the various subdivisions of the department was explained, further advances have been made, especially in the division of contagious diseases. Dr. H. P. Loomis has been appointed one of the pathologists of the department. The previous appointment of Dr. Prudden and Dr. Biggs has been mentioned already. The intimate relationship existing between the pathological and the otherwise sanitary questions considered by the conference committee caused the pathologists of the department to become also practically members of the committee. They were present at all important conferences and gave to the committee the benefit of their more intimate knowledge of disease propagation and prevention. The importance of the services of these gentlemen to the department can be best estimated when the practical character of their work is considered. As an illustration, about two years ago a person in the city was attacked with symptoms closely resembling Asiatic cholera, and the associations of the patient had been such that a diagnosis of this disease was not considered at all extravagant. The non-existence of cholera in the case was boldly announced by both Dr. Prudden and Dr. Biggs, after sufficient time had elapsed to determine by the culture process the absence of the characteristic bacillus in the discharges. The recent report on tuberculosis, made by Dr. Prudden, Dr. Biggs, and Dr. Loomis at the request of the commissioners of the Health Department, and the circular issued by the board, are matters that are, no doubt, still fresh in the minds of the profession of this city. They are certainly fresh in the minds of the members of the medical profession elsewhere, since the requests for circulars and reports are frequent and urgent, showing that the advance in the investigation and prevention of disease being made by this department attract widespread attention and general commendation in other cities and countries. Nor is this all, for, at the request of the department, these same gentlemen devised an apparatus for disinfection, and suggested the construction of a crematory; by means of these, all infected material can be properly disinfected or destroyed. The thanks of the profession are due, not only to the pathologists but also to the "City Fathers," who at that time in their official capacity appropriated at once the means for the construction of the apparatus. This disinfecting plant is located in a building near the Willard Parker Hospital, and all, lay and professional alike, are invited to call and inspect the outfit when completed. In the near future it is the intention of the commissioners of the Health Department to conduct a kind of disinfecting laundry, to take from premises all infected portable textile fabrics, and to disinfect them and return them to the owners. It will be recalled, I trust, that, in the paper presented by me two years ago, an allusion was made to the fact that the medical inspectors of the department had just been placed at legitimate medical work. At that time the city had just been divided in districts to conform as nearly as practicable with the occurrence of contagious diseases in the city, and to each district a medical sanitary inspector had been assigned with instructions to visit at once each case of contagious disease reported in his district, to search for the cause of the disease, to co-operate with the friends and physicians in the prevention of the spread of it, and to examine the premises carefully for any sanitary defects as regards plumbing, ventilation, etc. As the result of this change, the following cases of disease have been interrogated, rooms disinfected, etc.:

Number of premises containing contagious disease inspected by the Medical Sanitary Inspectors from Dec. 1, 1887, to Nov. 2, 1889	35,471

Variety of Contagious Diseases.

Typhus	4
Typhoid	2,378
Scarlet fever	16,180
Measles	10,843
Diphtheria	13,048
Cerebro-spinal meningitis	285
Small-pox	316
Phthisis	873
Tubercular meningitis	128
Dysentery	52
Malaria	61
Tabes mesenterica	23
Entero-colitis	4
Total	44,195
Number of rooms fumigated	32,153
Number of rooms disinfected	115,693

It is not uninteresting to note the fact that the use of SO_2 appears to be in all respects as good a practical agent as yet employed, notwithstanding the adverse results following limited experimentation regarding its efficiency made in biological laboratories. (*Vide* Edson's report, Med. Record, Nov. 16, 1889.)

It will be noticed that the department is at present engaged in the investigation of tubercular diseases. Eight hundred and seventy-three cases of phthisis, 128 cases of tubercular meningitis, and 23 cases of intestinal tuberculosis have been investigated since July 8, 1889. The plan adopted is to visit the premises where deaths have been reported to have occurred from those diseases, and make investigations as to the relation of the death to the previous existence of similar diseases on the premises; also to note the existence or non-existence of similar diseases then present on the same premises. Thus far sufficient facts have not been collected to warrant the expression of an opinion as to the relationship existing between them. However, should future examinations warrant the belief that the spread of these diseases can be limited by action of the department, the members of the profession will be called on to report tubercular cases to the department when coming first under their observation.

It is interesting to note that the medical inspectors, while engaged in the investigation of contagious diseases, have made 8,128 complaints against unsanitary conditions found to exist in connection with cases of contagious diseases. Had this plan not been adopted, there is little reason to believe that the great majority of these defects would have been brought to the attention of the department for some time to come.

The following tabulated statement shows the number of cases removed to the hospitals of this department while suffering from contagious diseases:

Cases sent to Hospitals from Dec. 1, 1887, to Nov. 13, 1889.

	FEVER.													
	Yellow.	Typhus.	Remittent.	Typhoid.	Scarlet.	Measles.	Diphtheria.	Small-pox.	Impetigo contagiosa.	Whooping-cough.	Varicella.	Parotitis.	Total.
Reception and N. B. I. Hospital	..	5	1	2	368 (ad'lt)	235	23	335	1	26	16	3	1,015
Willard Parker Hosp.	1	..	..	..	342	3 Pavilion.	419	....	....	....	..	..	765
Grand total	1	5	1	2	710	238	442	335	1	26	16	3	1,780

Since the Health Department assumes charge of cases of contagious disease in the hospitals devoted exclusively to their treatment, many of which seek these hospitals by the advice of members of the profession, it is eminently proper that the rates of mortality of the respective diseases in the department hospitals should be known by the profession:

Number of Cases treated at the Willard Parker Hospital from Jan. 1, 1888, to Nov. 13, 1889, with Rate of Mortality in each.

	Treated.	Died.	Mortality.
Scarlet fever (children)	425	88	20·7
Diphtheria	595	123	20·83

The following is a report of the number of cases treated at Riverside Hospital and rate of mortality from January 1, 1888, to November 1, 1889:

DISEASE.	Number of cases treated.	Number of fatal cases.	Mortality.—Rate per cent.
Small-pox	386	76	19·69
Scarlet fever (adult)	381	39	10·24
Measles	194	12	6·18
Whooping-cough	32	5	15·62
Typhoid fever	4	3	75·00
Typhus fever	2	0	....
Mumps	1	0	....
Chicken-pox	1	0	....
Total	1,001	135	13·49

The following is a tabulated statement showing the mortality rate for certain diseases treated *outside* of the Riverside and Willard Parker Hospitals in the city of New York from January 1, 1888, to November 9, 1889:

DISEASE.	Total cases reported.	Total deaths.	Total outside H. D. hospitals.	Deaths outside H. D. hospitals.	Mortality outside H. D. hospitals.
Scarlet fever	15,594	2,559	14,788	2,432	16·44
Diphtheria	11,879	3,433	11,284	3,310	29·33
Measles	13,226	1,024	13,032	1,012	7·77
Typhoid fever	2,363	702	2,359	699	29·63
Chicken-pox	17	5	16	5	31·25
Total	43,079	7,723	41,479	7,458	17·98

No comparison can be made of small-pox, as only 292 cases were reported from the city, the balance of the 386 cases treated in the hospital being made up of cases removed from Quarantine, a few from Long Island City, and some remaining over from 1887.

Two cases of typhus were reported, and both were treated in the hospitals of the Health Department.

The five diseases given in the table are therefore the only ones that can be used for comparison.

It will be noticed that the mortality rate of scarlatina in the Willard Parker Hospital (20·7) is greater than in the Riverside Hospital (10·24). This difference is largely due to the fact that only older persons are treated for this disease in the latter hospital. It is also noticeable that the mortality rate of this disease outside of these hospitals (16·44) is less (4·26) than that of the Willard Parker Hospital. However, when it is considered that children only are treated in the Willard Parker Hospital, and that they have been found associated, as a rule, with the most unwholesome sanitary surroundings of the city, this result may be considered remarkable in a comparative sense. In other respects the mortality rates of the hospitals of the department appear at an advantage, except perhaps with reference to the four cases of typhoid fever treated at the Riverside Hospital. These cases came under the care of the department as suspected typhus, owing to the severity of the attack and of the nature of the surroundings from which they came, and after other means of succor had been exhausted.

The vaccinating done by the department can not fail to be of interest to you.

The following statements show the total number of vaccinations performed during the year 1888, and from January 1 to November 1, 1889.

The percentage of success of primary vaccinations performed in 1888 is exact; the other percentages are estimated from results obtained in April and September, 1889, and from the exact results of 26,174 revaccinations done in public schools:

Primary vaccinations, 1888	24,862
Percentage of success (exact)	83
Secondary vaccinations, 1888	58,201
Percentage of success, 1888, first attempt	47·5
Percentage of success, 1888, second attempt	24·9
Total number of vaccinations performed in 1888	83,063
Primary vaccinations of 1889 (to November 1st)	22,288
Percentage of success (estimated—to November 1st)	80
Secondary vaccinations, 1889 (to November 1st)	40,999

The percentage of success can not at present be estimated, since it is made by the public-school vaccinators at the end of each year.

Total vaccinations performed in 1889 to November 1st, 63,287.

During the past five years the record of births per year has averaged 32,407. The officers of the Health Department vaccinated each year about 24,800 primaries. This leaves about 7,600 children, most of whom are vaccinated by physicians not connected with the department. This estimate, however, is a rough one, because the number of unreported births can not be well determined. However, when the number of vaccinations performed by dispensaries and hospitals that are supplied with free virus by the department is estimated, it will be seen that the city is well protected against small-pox. This number is approximately 10,000 at least.

It is with not a little pleasure that the commissioners call the attention of the profession to the fact that no case of indigenous small-pox has appeared in the city since December 8, 1888.

The importance of having in this city sufficient and suitable accommodations in which cases of contagious diseases can be treated that occur among transient people and others who, by reason of their affluent circumstances, can avail themselves of the accommodation and attention which their importance or means entitle them to receive, should be given most earnest consideration. This is especially important in view of the fact of the contemplated international fair to be held in this city in 1892.

It is not difficult to understand that the guests of the city, and even of the nation, on this occasion might, by reason of an unfortunate attack of even a mild form of contagious disease, be obliged to spend time in the hospitals of the city devoted to the purpose of treating contagious diseases.

It frequently happens that well-to-do occupants of apartment houses and hotels who are affected with contagious disease are required to go for treatment to the hospitals of this department, although financially able and willing to secure more acceptable quarters, if available, where they might be properly attended by persons of their own choice.

Among the advances being made by the department is one which the following resolution, adopted June 21, 1888, will explain:

"*Resolved*, That a thorough inspection be made of the more crowded Italian quarters in this city with reference to their sanitary condition, particularly as to overcrowding and cleanliness."

Within a few days thereafter—or nights, I ought to say—a large force of the sanitary police officers attached to the department visited the overcrowded rooms in these dwellings during sleeping hours and made complaints against the owners of them on account of such overcrowding. On June 29th, one week after, the following resolution was adopted by the board:

"*Resolved*, That the reports of the sanitary officers respecting the overcrowding and sanitary condition of certain tenement houses be and are hereby referred to the sanitary superintendent, and that the sanitary superintendent be and is hereby directed to enforce Section 664 of the Consolidation Act in all instances demanding the same."

This labor has been continued as vigorously as the means at the command of the department would permit from that time until the present, and has been extended to other overcrowded quarters than those occupied by Italians. Up to November 12, 1889, 1,793 orders calling for the reduction of overcrowded rooms have been issued, resulting in a reduction of the population of these rooms of 7,040 souls in sixteen months.

The question of unwholesome and adulterated food has not been lost sight of by this department. It is somewhat questionable, indeed, if Macbeth could have uttered the sentiment—

> "Now good digestion wait on appetite,
> And health on both,"

had he resided in this city and been obliged to do his own marketing at times when market products were not amenable to the scrutiny of a health department. As illustrative of this, in 1888 and to November 1, 1889, there were condemned and destroyed by the department 17,741 quarts of milk, 827 tons of fish, 462 tons of meat, and 1,546 tons of fruit and vegetables.

Now, my friends, after this exhibit of unwholesomeness, I will venture to quote for your benefit from Henry VIII, who perhaps had a clearer insight than Macbeth of things present and perspective when he said:

> "Read o'er this;
> And, after this; and then to breakfast with
> What appetite you have."

The number of the arrests made and the amount of the fines imposed in connection with these seizures have proved somewhat salutary, as the following statement will show:

	Arrests.	Fines.
1888............................	430	$13,027
1889, to Nov. 1....................	264	8,835
Total	694	$21,862

Almost the entire amount of these fines were imposed for the sale and exposure for sale of sophisticated milk; another striking illustration of the proverb that teaches us that "the way of the transgressor is hard," especially the "milky way."

Since the year 1879 the department has had the power of approval or disapproval of all plans for the construction of tenement and lodging houses in this city in so far as they relate to light and ventilation and to the supervision of the construction of the same in accordance with the plans as approved; also the approval and disapproval and the supervision of all changes made in all buildings to be used as tenement or lodging habitations, as to light and ventilation. The fact that all dwellings, as apartment houses, etc., which are occupied by three or more families, are under the law "tenement houses," will enable one to form more clearly a proper estimate of the full scope of this part of the work. Since 1881 the department has had the approval and disapproval and supervision of the plans of the plumbing of all buildings erected in the city. This labor is one of immense responsibility, and requires a high degree of knowledge, honesty, and vigilance on the part of those engaged in the work that can not be properly estimated, except by those familiar with the rapid growth of the city, and with the fallibility of human nature as modified by the desire of personal gain and a dearth of personal honesty. During the last two years the following work has been performed by this branch of the Health Department:

Nov. 1, 1887, to Nov. 1, 1889.	Plumbing plans,	3,157, covering 6,308 houses.
	Light and ventilation,	1,935, covering 3,576 houses.

I might prolong the descriptive part of this paper almost indefinitely by entering into the detail necessary to accomplish properly the purposes which the law contemplates. This, however, would become fatiguing, and would be soon forgotten. The limits of this paper will not permit me to speak of other than such branches of duty as concern most intimately the labor and observation of the physician himself. Professional duties make you necessarily aware of the methods and purposes of the Bureau of Vital Statistics. The facts relating to inspections from house to house and inspections based on "citizens'" complaints are also matters that were of general knowledge long since.

Such, then, is the brief *résumé* of a portion of the department only. It may be of interest for you to learn that the commissioners of the department contemplate the inauguration on or about the 1st of May next of a radical change in the handling of stable manure. Many members of this Academy have been active for a long time in the attempt to bring about a radical reform of the present methods in this respect. We sincerely hope that the ardor and logic of your arguments in the past in behalf of a change will be redoubled in the earnestness of the support which you will give to it in the future if necessary.

We are sorry to be obliged to say to you that a change in the form of the death and other certificates is to be made for the coming year, to enable the department not only to continue to preserve the records in the best possible form as to durability, availability, and correctness, with a minimum expense to the city, but also at the same time to meet all cavil as to a proper compliance with the demands of the law. Finally, the policy of the board at the present and for the future is the same as in the near past, in so far as security of position and of proper promotion will be the rewards for fidelity and the faithful performance of duty on the part of the subordinates; the good record of an applicant will be the strongest recommendation he can have for appointment or preferment. In all other matters pertaining to the department the wise precedents established by the previous commissioners will be adhered to, and, at the same time, new lines of action will be formulated and advanced in accordance with good sanitary policy of the present time; also careful attention and vigilance will be exercised in all matters, for, as Scott wrote—

> "Chance will not do the work—chance sends the breeze;
> But if the pilot slumber at the helm,

The very wind that wafts us toward the port
May dash us on the shelves. The steersman's part
Is vigilance, blow it rough or smooth."

The good wishes, support, and aid of the medical profession are earnestly solicited, and the commissioners will, in turn and out of turn, do what lies in their legal power to conform to all proper requests made of them by the citizen, be he lay or professional. A few words more and I am done; and these words are spoken more in the light of a suggestion than otherwise. Owing to the death of Dr. Agnew, there exists a vacancy in the Conference Committee of the Academy. The commissioners, therefore, respectfully request that this vacancy be filled at your earliest pleasure. They also respectfully suggest that the chief representative of the Academy—the president—be at all times a member of the committee, since by means of his dual position he will be fully cognizant of the desire of both the medical profession and the Health Department, and thereby be fully able to serve intelligently in behalf of the common interests of each of these bodies.

EPIDEMICS OF INFLUENZA,

FROM A. D. 1510 TO A. D. 1890.

By HENRY MACDONALD, M. D.

It having been my privilege to attend a meeting recently held by the Committee on Hygiene and a contingent of the County Medical Society, of New York, and also to have received *carte blanche* to communicate the subject-matter there discussed to the New York Medical Journal, I propose to avail myself of the opportunity in a manner apropos to a present clinical crisis. The meeting referred to was called for the purpose of eliciting reliable information from a given number of medical men, in active practice, in New York city, as to their respective findings while attending patients attacked by the prevailing epidemic. Having of late given its early history some careful research, I have thought that a few remarks by men who noted the clinical aspects of this disease as remotely as 1749 might serve as an effective background to the more recent findings.

Short's History of the Air, published in London in 1749, is a quaint chronological survey of the remarkable effects produced in sundry places, and at different Times, upon Animal Bodies, by the Air and the Weather, by Seasons and by Meteors, &c., &c. It is therein stated that in A. D. 1510 there appeared a disease called Coccoluche, or Coccolucio (because the Sick wore a Cap or Covering close all over their Heads). This disease was said to have come from the "Island of Melite in Africa, into Sicily; so into Spain, and Italy, from that over the Alps into Portugal, Hungary, and a great part of Germany, even to the Baltic Sea; every Month shifting its Situation with the wind, from E. to W. So into France, Britain, &c. *It attacked at once*, and raged all over Europe, not missing a family, and scarce a person. A grevious pain of the Head, Heaviness, Difficulty of Breathing, Hoarsness, Loss of Strength and Appetite, Restlessness, Watchings, from a terrible taring cough. Presently succeeded a Chilness, and so violent a cough that many were in danger of Suffocation. The first Days it was without spitting, but about the 7th or 8th Day much vicid Phlegm was spit up. Others (though fewer) spit up only Water & Froth. When they began to spit Cough and shortness of Breath were easier. None died, except some children. In some it went off with a looseness; in others by sweating. Bleeding and purging did hurt. Bole Armoniac was chiefly useful with Oily Lintus's, pectoral troches and Decoctions. Where blood was let, the disease proved malignant and pestilential, being attended with a violent, cruel, and unheard of Malignity, and made bad Work. It was preceded by a long moist Air. We shall find it again in 1557, '80, and '97, &c."

Of the outbreak of 1557 it is said that "In some more remote Countries presently came, after a very strong cold north wind, many Catarrhs, quickly followed by a most severe Cough, Pain of the Side, Difficulty of Breathing, and a Fever. The Pain was neither violent nor pricking, but mild. The 3rd Day they expectorated freely. The 6th, 7th or 8th Day all who had that Pain of the Side died, but such as were blooded the first or second Day recovered on the 4th or 5th; but Bleeding on the last two Days did no service. Slippery, thickening, Linctuses, were found of most service. Broths or spoon-meats, or moist foods were good, But where the Season continued still rainy, the case was very different, bleeding or purging was then so dangerous that at Mantua Carpentaria, near Madrid, 2000 who were let Blood of, died. There it began with a roughness of the Jaws, small cough, then a strong fever, with a Pain of the Head, Back and Legs; some felt as though they were corded over the Breast and had a Weight at the Stomach; all which continued to the 3rd Day at farthest, then the fever went off with a sweat, or bleeding at the Nose. In some few it turned to a Pleurisy or fatal Peripneumony."

Coming then to 1580, it is chronicled that "The weather for some years past having been extraordinary moist, wet and rainy, Wind South, at the rising of the Dog Star came a cold Dry North Wind. From the middle of August to the end of September raged a malignant epidemic Catarrh; it began with a pain of the Head and Feverish Heat. Some were disposed to Sleep others to Watching; presently followed a dry cough. Pain of the Breast, Haskness, and Roughness of the Throat, Weakness of the Stomach; at last a terrible Panting for Breath, like Dying Persons. This Disease raged all over Europe at least, and prevailed for six weeks."

"The same Epidemic returned in October and November that year. At the same Time a Fever of the same kind prevailed all over the World, and was the same with that of 1551, as the Catarrh and Disorder of the Breast were the same with those of 1510, 1591, 1597, 1610, &c., over all Europe, with a Rheum and Distillation from the Head, Fever, Pain, Heaviness, Hoarsness, Weakness, &c."

And so is described the present epidemic by this ancient chronicler. As proof that the disease of 1510 was recognized as identical in general outline with *la Grippe*, one has only to turn to Forry's remarkable article on Epidemic Influenzas, written in reference to the then prevailing catarrhal fever, in the New York Journal of Medicine, for July, 1843.

This writer commences by saying "that the history of disease presents few subjects of greater interest than the epidemic influenzas which have of late years prevailed with more than ordinary frequency—a disease marked with characters so striking as to render its identification with previous epidemics a question admitting of no doubt."

The following further quotations from Forry will give a fair idea of the then existing medical view of the subject:

"It is here, in the city of New York, as cities always abound in the exciting causes of epidemics, that the disease seems to have its stronghold. The population appears, indeed, to have experienced an almost universal attack, neither age, sex, nor any condition in life being exempt from its invasion. To the airy habitations of comfort and affluence and to the hovels of wretchedness its visitations are equally made. . . .

"Many ships, however, have suffered an invasion of the disease in mid-ocean, which affords evidence, independent of the characteristic symptoms of the disorder, that the disease really belongs to the class of epidemic influenzas. Acute bronchitis and common catarrhal fever are perhaps the only diseases with which it may be readily confounded; and the single fact that it prevails likewise on the ocean, where, as the temperature is equable, catarrhs are little known, indicates a peculiar affection, which can not be ascribed to ordinary atmospheric vicissitudes—the existence of a peculiar virus, whatsoever its nature, which, like that of measles, scarlatina, or epidemic cholera, is propagated under certain laws. And this conclusion is further substantiated by the two facts, that the malady attacks individuals indiscriminately, without reference to any predisposition to catarrhal affections, and that it is attended with a much greater depression of the powers of life, both corporeally and mentally, and with more local pain, than are proportionate to the severity of the catarrhal symptoms. Indeed, many individuals, after forty-eight hours' confinement by this disorder, look like convalescents from some severe and protracted disease.

"*Synonyma.*—It is the *Rheuma epidemicum* of Sauvages, the *Catarrhus à contagio* of Cullen, the *Catarrhus epidemicus* of Swediaur and Good, the *Morbus catarrhalis* of Ehrman, the *Febris catarrhalis epidemica* of Huxham, the *Defluxio catarrhalis* of Young, the *Febris remittens catarrhalis* of Macbride, and the *Catarrhe pulmonaire* of Pinel. By the French writers it is variously known by the names of *Grippe*, *Folette*, *Coqueluche*, *Petite poste*, *Rhume epidémique*, *Fièvre catarrhal epidémique*; by the Germans, *Epidemischer Schnupfenfieber*, *die Russische Krankheit*, *Russische Katarrh*, *Influenz*, *Huhnerzipf*, *Blitzkatarrh*; by the Italians, *Influenza*, *Catarro Russo*; by the Spanish, *Influencia Rusa*; by the Swedes, *Snufsjuka*. With us the disease is mostly known by the terms *Influenza* and *la Grippe*—the former is the Italian for 'influence,' implying a supposed astral or terrestrial agency in its production; and the latter is derived from *gripper*, 'to gripe,' 'to catch hold of,' being the vulgar French appellation."

History.—"In 1729 and 1730, during a period of five months, the influenza spread throughout all Europe, having attacked fifty thousand persons at Milan, sixty thousand at Rome, and the same number at Vienna. In Paris and London it was very fatal, cutting off one thousand a week, in September, in the latter city. The epidemic influence seemed to continue in operation; and in 1732–'33 it again spread over all Europe, and also appeared in America. It reappeared in 1742–'43, overrunning all Europe. The year 1762 is characterized by the next remarkable visitation of the influenza, of which an elegant description is given by Sir George Baker. Although it extended over a large proportion of Europe, yet few died, except the old, the asthmatic, and the consumptive. In America it had prevailed in the preceding year. The next epidemic catarrh, in the order of time, was that noticed in Europe in 1775, and described by Dr. Fothergill. This visitation was mild in its character, and the most of the deaths which did occur, unlike preceding epidemics, were attributed to the *omission* of bleeding. In the spring of 1782 influenza again raged in England, Ireland, and Scotland, having, as usual, approached from the east and south. By Dr. Haygarth the disorder was considered contagious. The influenza of 1803, which also advanced in a northerly direction, was taken advantage of for collecting a great number of notices of the epidemic from different parts of the country; and in this the London Medical Society set a laudable example by proposing a set of queries to its corresponding members. The epidemic visited the United States the same spring; and here the disorder was often followed by a severe dysentery, while in France ophthalmia as frequently ensued. For an excellent account of this visitation we are indebted to Dr. Fothergill, who considered the malady contagious. The influenza of 1830, though generally mild in its character, was perhaps universal over the earth's surface. In its wide diffusion this epidemic spread from the east over the Americas, and in many places it was the precursor of epidemic cholera. The epidemic reappeared in 1833, and, lastly, in 1836–'37. At the latter period it was again most widely diffused, having existed simultaneously at Sydney, at the Cape of Good Hope, and on the shores of the Baltic."

Concluding a *résumé* of the history of the influenza from 1510 to 1837, this author (Forry) states that the subject is one of great importance and richly deserves special investigation, since it is warranted by medical records that the visitation occurs, on an average, once in ten years. Still more important he considers the fact that, of all epidemics, taken in the aggregate this has proved the *most destructive*—an inference receiving additional force from the well-grounded opinion that for years after the disappearance of the epidemic a modified condition of the atmosphere may remain, causing a liability to affections of a kindred character. He recommends every medical association in the country, wherever the epidemic may prevail, to exert itself in obtaining all the information possible relative to its whole character.

"*Causes of the Epidemic.*—Although the various accounts of the phenomena attending this epidemic, in its different visitations, abound in discrepancies, yet in many of the descriptions we find, either as precursor or attendant signs, *extraordinary vicissitudes of weather, thick or offensive fogs, easterly winds, and diseases, often of a similar kind, among horses, dogs, and cattle.* For example: Short says that 'thick, ill-smelling fogs preceded some days the epidemic catarrh of 1567. July, August, and September had been very hot and dry; and in the end of September came a very strong, cold north wind.' According to De Jussieu, 'the influenza of the spring of 1733 appeared in France immediately after offensive fogs, *more dense than the darkness of Egypt.*' At Edinburgh, at this time, coughs and running from the nose in horses were universal, just before the disease attacked men. In the epidemic catarrh of 1755 the disease in France, according to Petit, was ushered in by thick, noisome fogs, and a cold, rainy autumn; and in England, before the influenza broke out, Dr. Anthony Fothergill says that the disease was general among dogs and horses. As regards the influenza of spring 1782, Dr. Parr asserts that horses were affected with a cold at the same time near Exeter; and, in reference to this same epidemic, at Petersburg, Maertens records the following striking fact: 'On a cold night the thermometer rose thirty degrees of Fahrenheit; *the next morning* forty thousand people were taken ill with the influenza.' Were it deemed necessary, similar extracts might be indefinitely extended. Suffice it to add that by Huxham it is remarked that 'the cause of epidemic catarrh seems to depend on a thick, moist, and cold air.' . . .

"Others have indulged in the speculative idea that the noxious matter diffused is dependent on animalculæ, which have been proved to exist abundantly in the atmosphere by the observations of Ehrenberg. Such organized matter, it has been supposed, may, under the influence of magnetical or other changes, become so modified as to affect the condition of the atmosphere in its relations to the higher orders of living beings; or it may become a source of disease, by engendering or diffusing some peculiar virus. This hypothesis of insect life as a cause of disease is by no means a new speculation; but it is only of late years that that vast domain of life to which the infusoria belong has been clearly disclosed to us by the wonderful eye of the microscope. A most excellent view of this subject is presented by Dr. Holland in his Medical Notes and Reflections. . . .

"*Contagion.*—To this cause the prevalence of this disease has been attributed by many writers, Cullen having designated it *Catarrhus à contagio.* Although the evidence in favor of its contagiousness is too forcible to be altogether disregarded, yet we can not consider this mode of communication essential to its propagation. From inquiries instituted by Dr. Haygarth in ten of the towns of Cheshire, it appears that in seven instances the first cases presented themselves in houses visited by persons who had arrived from affected places. In the visitation of 1836–'37 it appears from the Trans. of Prov. Med. Assoc. that a similar observation was made. On the other hand, however, we discover certain phenomena which seem absolutely inexplicable on the doctrine of contagion—as, for instance, the extraordinary rapidity of its diffusion over large tracts of the earth's surface, there being many accounts of its having attacked whole kingdoms '*at once*'—and also the occurrence of the disease in ships which had put to sea some weeks before the epidemic appeared at the ports from which they sailed. Upon the whole, we are certainly warranted in placing influenza very low in the scale of contagiousness. . . .

"*Symptoms.*—This epidemic, like all others, has, at every period, maintained certain prominent characteristics of its identity; and, like others, it has also, in its different visitations, exhibited some diversity of symptoms, according to the season of the year, the endemic character of the locality, the constitution of the individual, as well as the general epidemic constitution, which last, by the way, is a phrase that merely wraps ignorance in the garb of scientific language.

"In the Cyclopædia of Practical Medicine the following symptoms are given, by which the ordinary course of the disease has been marked:

"'It usually commenced with slight chills, amounting sometimes to shiverings and alternate flushings of heat, with languor and sense of extreme weariness; then soreness over the eyes, or pain in the course of the frontal sinuses; these were quickly followed by frequent sneezing, a copious discharge of lymph, or thin, clear fluid from the nose and eyes, sometimes so acrid as to excoriate the upper lip; heat and soreness in the top of the larynx and œsophagus, and along the course of the windpipe, with hoarseness and dry cough; sense of stricture in the chest, and difficulty of breathing, sometimes attended with darting pain in the muscles subservient to respiration; weight and anxiety about the præcordia; flying pains in the back, knees, calves of the legs, and various parts of the body; depression of spirits, and sudden and extraordinary prostration of strength. The tongue was mostly covered, at an early period of the complaint, with extremely white mucus, like cream—a symptom particularly noticed by Huxham, Baker, Petit, and others; there was loss of appetite, the thirst was inconsiderable, and the pulse generally quick, weak, and soft.' . . .

"The more severe cases are marked by a decided rigor, alternating with heat and flushing of skin; and the fever, which has an evening exacerbation, may continue from two to fourteen days. These symptoms correspond so entirely with those of the present epidemic that every patient will at once recognize his own case; and in this visitation, as has been observed in all preceding ones, one of the most characteristic phenomena has been the persistence of cough and debility for weeks after the cessation of the other symptoms. In the present epidemic, the duration of an attack is from a day or two to a week or fortnight; but in the majority of cases a critical sweat, attended with free expectoration, appears on the third day, with a banishment of the fever on the fifth. Debility and vertigo have always been observed as among the most remarkable features of influenza; and these two symptoms have been very marked in the present visitation. We have seen some patients, who, even in the state of convalescence, could not rise from the horizontal posture without a tendency to sudden fainting. But there will necessarily be many complications of disease in this epidemic, dependent partly on atmospheric conditions and partly on the predispositions of the individuals affected; and of these complications, the most frequent and important are inflammation of the bronchial tubes, lungs, and pleura, or of the brain and its membranes, neuralgia, cutaneous eruptions, and acute articular rheumatism or merely sharp flying pains. These various results have doubtless been observed by every physician in the present epidemic. In some, the leading complication is cynanche tonsillaris; in others it is bronchial, attended with difficult and oppressed respiration, which, in very old and debilitated subjects, presents the character of a suffocative catarrh; in a third class the disease falls more particularly upon the mucous membrane of the stomach and bowels, indicated by diarrhœa, mucous evacuations, and sometimes abdominal tenderness; in a fourth class the complication is decidedly cerebral, characterized by vertigo, delirium, and erysipelatous eruption on the face; others, again, will have the rheumatic or neuralgic complication; and, lastly, there is a typhoid form, marked by extreme prostration of strength, great weakness of pulse, and other symptoms of adynamic fever, but this last, fortunately, rarely occurs, being almost exclusively confined to the poor and badly nourished.

"The sedative influence of the disorder is truly remarkable, testified in the graver cases by a sudden and often extreme depression of the vital powers; and this depression, in many cases, extends in a remarkable manner to the whole nervous system, impairing the mental functions and feelings in a degree not inferior to the corporeal derangements. Upon whatever tissue the impression may be made, the same generic character and type, as indicated by the adynamic state of the system, are evinced. The mucous membrane lining the respiratory passages is no doubt the texture primarily, perhaps chiefly, affected; but, in a more advanced stage, or in consequence of a more active virus or of a difference of corporeal predisposition, the lining membrane of the œsophagus, extending even to the stomach, may become affected, causing that peculiar distress about the præcordia which sometimes attends eruptive diseases, before translation to the skin has occurred; and this symptom, in consequence, at the same time, of the more general implication of the lungs, is accompanied by large mucous secretions, cough, and laborious respiration. . . .

"*Prognosis and Ratio of Mortality.*—Although uncomplicated influenza rarely destroys life, yet the ratio of fatality, as previously remarked, as deduced by Ozanam from a calculation of the mortality of all the recorded accounts of epidemic catarrh, is not less than two per cent. of those attacked. . . .

"We perceive, during the two weeks of the prevalence of the epidemic, a most extraordinary increase in the ratio of mortality, the last week exhibiting an augmentation of one hundred per cent.; yet, strange as it may appear at first view, not more than nine deaths from influenza are reported in the week ending with the first of July, and four from the same cause in the week preceding. This apparent discrepancy admits, however, of the most ready explanation, when we bear in mind the fact, taught us by the history of all earlier catarrhal epidemics, that, *in those who have died while suffering from the malady, anatomical examinations generally reveal some associated disease; for example, the chief victims have always been found among the aged and asthmatic, those susceptible to disease of the lungs, and of full, oppressed habits.* First, then, as regards *old age*, it is found that *nineteen* deaths are reported from this cause during the *two* weeks of the epidemic, while but *three* deaths from the same cause occurred during the *four* preceding weeks. Moreover, in the last week, five deaths are registered under the head of 'debility'—a term, by the way, which physicians, in the present advanced state of pathology, ought, in view of its complete indefiniteness, to endeavor to expunge wholly from the the bill of mortality. . . .

"When death has followed from simple influenza, the chief pathological appearances revealed are the following: A deep-red color pervades the mucous membrane of the larynx and bronchi, the trachea is found injected and covered with glassy-looking mucus, and flakes of lymph are sometimes observed in the ventricles and on the chordæ vocales; while a serous and mucous fluid surcharges the lungs generally, portions of their lower lobes being engorged, and sometimes consolidated. In violent cases of influenza the danger seems to arise from a deficient arterialization of the blood, in consequence of an excess of mucus; but, as the difficulty of respiration appears to be generally out of all proportion to the quantity of secretion and degree of inflammation, it has been inferred that the cause of the disease produces primarily an impression on the vital energy of the lungs, analogous to that resulting from a section of the nervus vagus.

"*Treatment.*—Making due allowance for the diversity of character exhibited by this epidemic in its various visitations, modified, as it necessarily must have been, not only in the degrees of their intensity, but by season, climate, and epidemic constitution, it is surprising to see how remarkably physicians of eminence agree in their testimony as to the general rules and principles of their practice. . . .

"We can not even assert, positively, that we can, under any circumstances, cut short the period of its duration. In the present state of our knowledge, we can do no more than direct our efforts to the mitigation of such symptoms as may be in excess; and thus, by promoting, at the same time, a normal state of the natural excretions, we may prevent injury to any particular tissue or organ. In thus defining the exact scope of our power, the judicious physician will at once see the importance of avoiding the officiousness of too much interference with the course of the disease; for this disorder presents, no doubt, a definite course of morbid actions, as the result of a specific virus, for which we know neither a specific antidote nor, unlike the case of small-pox, a specific prophylactic.

"Generally speaking, it is best to commence the treatment with calomel and compound extract of colocynth, followed by a saline purgative; for, in nearly all cases, in the present epidemic, there is more or less derangement of the chylopoetic viscera; and even should there be no such indications, these measures will obviate congestion, and diminish the liability to local inflammation. Should intestinal irritation in some degree be present, mercury in a milder form, as blue mass, combined with an anodyne extract, may be employed, to be followed by castor oil. . . .

"*Sequelæ.*—Reference has already been made to the tendency of this disease to change the condition and augment the susceptibility to disordered action of the mucous membranes and of the nervous system. These sequelæ have, in many instances, been more dangerous than the primary malady; and, what is singular, these subsequent affections often bear no relation, as regards their severity or danger, to the violence of the epidemic seizure. As the tissue upon which the force of the disease is chiefly expended remains peculiarly susceptible of derangement, a liability to chronic bronchitis and asthmatic affections, to rheumatic and neuralgic disorders, and to intestinal irritation, often continues for years."

The consensus of medical experience and opinions as to the present scourge, elicited by discussion at the recent meeting, may be briefly summed up for general comparison.

It was thought (by one observer) that in its earlier stages the disease resembled cerebro-spinal meningitis; that the most severe manifestation of the symptoms, as well as the greatest suffering and danger, had been during the first and second day, excepting, of course, those cases in which pneumonia and bronchitis supervened as complications. This disease appeared to differ from all other diseases supposed to be of microbic origin. From cerebro-spinal fever it differed in that the cases of influenza were multiple in a family. This was evidence of the contagious nature of the affection, which, however, was pretty widely disseminated through the atmosphere, by which means the infection might be conveyed. There seemed to be no other explanation of the rapid and universal spread of the disease, except that it was carried by the winds. The period of incubation appeared to be from one to five days. That the disease did not, as a rule, attack children or persons over sixty-five years of age. That a very fatal type of pneumonia, attributable to the epidemic, developed, in the event of imprudent exposure, after the subsidence of the acute symptoms. That to the high mortality rate of the past few weeks, from pneumonia and allied inflammatory conditions, the epidemic had contributed as an initial factor. That the contagiousness of the disease was by no means assured, but its epidemic character seemed evident. That it was not self-protective, the liability to its recurrence in the same individual having been demonstrated. That there was no reason to assume that its existence was influenced by climate. That the erythematous symptoms characteristic of former visitations had been noted. That the disease appeared under many varieties, making any direct classification of the symptoms impossible. The following symptoms might exist together, or only in part: Brief malaise, headache, chill, fever, pains over the whole body, especially in the back and loins; suffusion of the eyes; bronchitis; a characteristic cough; gastro-intestinal irritations; skin eruptions; delirium; great prostration, physical and mental; and certain violent neuralgias. That the treatment, when directed promptly to the "chylopoetic viscera," relieving the intense congestion by active catharsis, and to the lowering of the temperature by any of the standard antipyretics, was usually effective in securing an early subsidence of the initial symptoms. That the administration during the second stage, which was that of depression, of stimulants, such as digitalis, with the view of warding off the tendency to hypostatic or catarrhal pneumonia, was undoubtedly indicated. That it was the duty of the profession as a whole to warn the public against what seemed to be really the only danger connected with the epidemic; this lay in the resumption of normal vocations before recuperation was thoroughly established, and in exposure and fatigue during the stage of convalescence.

This epidemic, now waning, came as a stranger, and, stranger-like, took in a goodly quota of the ultra diagnosticians. As a matter of fact, medical lore is replete with information on the subject. If the prognostications of former observers are of value, the general depression and tendency to a certain class of ailments follows for some time in the wake of such visitations. It is a fact certainly worthy of note that, even after the so-called period of depression is past, convalescence well established, and vocations resumed, there is a very decided lack of tone, patients telling you that they don't seem to be able to pull themselves together. How long this will last remains to be noted.

As yet the microbic origin of the malady has not been demonstrated. It has, however, been suggested that, this being admitted, the development of a resultant ptomaine might cause the pneumonia. While in the interests of science it is most desirable that "grip's" private germ should be caught and bottled, it is of paramount importance that the suggestion for great caution during convalescence, which formed the committee's semi-official manifesto, should be promulgated among the laity, and that the profession should make such use of the present opportunity that it will know the disease when it again comes this way.

334 West Thirty-fifth Street, *January 8, 1890.*

A Chinese Prescription.—" Dr. Cho Ping was summoned to the bedside of one of his patients who had swallowed an overdose of opium. First, the doctor sat feeling the man's pulse for a couple of hours; he then wrote out the subjoined recipe, which it took half a day to make up:

2 couples of salted lizards (2 male and 2 female),
½ oz. of Korea ginseng root,
6 dried grasshoppers (3 male and 3 female),
1 oz. of sweet-potato stalks,
1 oz. walnuts,
½ oz. lotus leaves,
¼ oz. tail of rattlesnake,
2 ozs. black dates,
½ oz. elm-tree bark,
½ oz. devil-fish claw,
½ oz. hartshorn,
¼ oz. birds' claws,
¼ oz. dried ginger,
½ oz. old coffin nails.

The whole to be mixed with two quarts of water, and boiled down to one half the quantity. Then let the patient drink the mixture as quickly as possible."—*British and Colonial Druggist.*

Tannin in the Treatment of Burns.—" A correspondent of the Pharmaceutische Zeitung, speaking from his own experience, says that tannin can not be too highly recommended as an application to burns, especially when very extensive, the skin being entirely removed. A five-per-cent. solution is squeezed from a sponge over the denuded surface, which is then dressed with some soft ointment, either with or without tannin. Pain immediately abates, and the healing process is wonderfully rapid. The tannin solution must, of course, be freshly applied as often as the dressings are renewed."—*Druggists' Circular and Chemical Gazette.*

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COCILLAÑA.

On the occasion of the reading of Dr. Wilcox's paper, published in a recent number, Dr. H. H. Rusby presented specimens of the bark, as well as herbarium specimens of the plant showing a leafy branch bearing flowers and young fruit. He stated that he had heard fabulous stories concerning the powerful properties of this bark long before encountering the tree. In spite of the absurdity of these stories, it was evident that the drug possessed important properties. The natives of that region knew only two uses for drugs—as an emetic and as a cathartic. It appeared that cocillaña bark was used in both ways, larger doses being required to cause purging. They were accustomed to give it in decoction. The use of a piece as large as the hand had been known on several occasions to cause death, preceded by violent vomiting and purging. Dr. Rusby had administered the bark in substance to his companions and carefully noted its effects. From this it had become apparent that it possessed an important influence over the functions of the respiratory tract. According to his observations made at that time, its action was the most pronounced upon the upper portions of that tract—namely, the pharynx and nares. He had therefore been greatly surprised to find, on clinical trial, that this was the very region which had failed to become affected by its action. He was inclined to consider this the result of too small doses having been administered. He believed that where the drug was given in larger and more frequently repeated doses, bringing the patient rapidly to the point of nausea, action would be secured upon this portion of the respiratory tract, and an ordinary cold might be aborted. Upon this point evidence was as yet lacking. In his own experience he had found that the drug produced the best action when its administration was somewhat forced. Upon the first indications of an attack of acute bronchitis, he would give fifteen minims of the fluid extract, repeating it ordinarily in two or three hours. This would result in the production of a profuse mucous discharge, with a tendency toward the return of the mucous membrane to its normal condition and the abortion of the attack. If, however, such a favorable result was not produced, the administration of the medicine should no longer be continued in this manner. We must then look forward to a more prolonged treatment, and doses of from fifteen to twenty-five minims should be given only at intervals of three or four hours. One of its most important offices be believed to be that of promoting the appetite. This was among its earliest and most marked effects, and he believed that its use in smaller doses, of say from ten to fifteen minims, an hour before meals, was plainly indicated independently for this purpose. Dr. Wilcox's paper he thought was specially valuable inasmuch as it indicated a reason not only for the failure of the drug in certain cases, but for the unquestioned fact that in the hands of several experimenters it had produced harmful results in certain cases. Dr. Wilcox had explained this by showing that, while cocillaña possessed the power of increasing the discharge and its fluidity, it did not possess the power of stimulating the organs to throw off this discharge; so that its use was dangerous in cases where there was great impairment of this power. Some of the results reached by Dr. Wilcox exactly confirmed those which had been reached by other clinicians, notably Dr. David D. Stewart, of Philadelphia, who had published an important paper on this subject in the Medical News for August 24th. In other respects Dr. Wilcox's investigations were original, and the conclusions reached were very important.

SHOULD SYPHILITIC PHYSICIANS PRACTICE THEIR PROFESSION?

Professor Neisser discusses this subject at some length in the Centralblatt für Chirurgie. His paper is largely theoretical and deals with the question of liability of contagion more than with the one really at issue, and his conclusions, with which we concur, are based upon a somewhat bald statement of the improbability of such infection occurring at the hands of a careful physician, rather than upon his elaborate proofs of its possibility. There is no doubt that there is danger of infection of a healthy person by contact with another in the active stage of syphilis under certain conditions, unless some mechanical means is employed to prevent inoculation. Among physicians the danger exists particularly in gynæcological and obstetric practice, and a physician or midwife with a primary lesion, or secondary efflorescences of the hand or finger, may sow the disease broadcast if no means of prevention is adopted. This is very likely to happen when from ignorance or carelessness the presence of the disease is overlooked, but as soon as he becomes aware of its existence the self-interest of the physician will induce him to take measures to prevent any further contagion from himself, and he will adopt the best available precautionary means of which he has knowledge. The probability of infection then becomes very slight, even in these branches of practice.

Neisser is of the opinion that mercury renders the poison of the disease less virulent and less likely to be transmitted to others. However this may be, it is in all probability true that the duration of what may be termed the infectious stage of the disease is very materially shortened by a systematic mercurial treatment, and that after a few years of such treatment the physician can safely attend all cases without these special precautions. The probability, therefore, that a physician who may have the misfortune to acquire syphilis will become the nidus for its dissemination is so slight that it does not seem right to exclude him from practice unless it can be shown that he has knowingly and wantonly given the disease to others. In that case hardly any penalty would be too severe.

MINOR PARAGRAPHS.

SPONTANEOUS RUPTURE OF UTERUS, WITH OPERATION SIX WEEKS LATER FOR EXTRACTION OF THE FŒTUS.

The British Medical Journal quotes from a Cracow medical publication the history of an unusual case of uterine rupture with extraction of the fœtus after an interval of six weeks. Dr. St. Braun is the reporter of the case, which occurred in a woman, thirty-eight years old, the mother of nine children. The patient entered the hospital six weeks after the cessation of fœtal movement, due to spontaneous rupture of the uterus and the escape of the fœtus into the peritoneal cavity. She had had an offensive, purulent discharge from the vagina and umbilicus for two weeks prior to admission. Abdominal section was performed and a well-developed, macerated fœtus was found lying free in the suppurating peritoneal pouch or abscess. The patient lived some time, but ultimately died from exhaustion. At the autopsy it was found that the peritoneal abscess had found an outlet at the umbilicus, and pus had worked its way along the fœtal membranes and caused placental suppuration, with the resulting fœtid vaginal discharge. The bladder and kidneys were diseased. The extent of the renal complication was regarded by Dr. St. Braun as in itself sufficient to have caused the death of the patient, and she would in all probability have survived the operation but for the intercurrent inflammations.

THE COLD-BATH TREATMENT OF TYPHOID FEVER.

Dr. F. W. E. Hare, resident physician of the Brisbane Hospital, has contributed to the Australian Medical Gazette an analysis of the cold-bath treatment of typhoid fever at that hospital in 1888. He gives statistics showing a reduction in the fatality from typhoid, which in 1886 was 14·6 per cent. After the bath treatment was introduced, in 1887, a lower rate of 11·3 per cent. was recorded. In 1888, a further fall to 6·8 per cent. was obtained. During the same period the fever mortality at the Sydney Hospital and one other, in a neighboring district, remained about stationary, the cold-bath treatment not having been adopted in those two hospitals. Dr. Hare finds that the bath tends to influence favorably those causes of death which are common to all fevers—toxæmia, asthenia, coma, pneumonia, etc.—rather than the local dangers of typhoid, such as perforation, intestinal hæmorrhage, and peritonitis. The reduction of the fatal intercurrence of pneumonia seems to have been a special result of this method of treatment at the Brisbane Hospital.

THE VITAL STATISTICS OF NEW YORK AND BROOKLYN FOR 1889.

The total number of deaths in New York in 1889 was 39,583. This is equivalent to a death-rate of 25·12 in a thousand, the population being estimated at 1,571,558. This is an improvement over the rate for 1888, when there were 26·24 in a thousand. The deaths exceeded the reported births by 2,062. There were 14,400 marriages reported. Phthisis, as usual, was chief among the causes of death. It caused 5,163 deaths, or 100 fewer than in 1888. There was only one death by small-pox. The total increase in the city's population was estimated at 50,000.

In Brooklyn the mortality in 1889 was 18,379, representing a death-rate of 22·10 in each thousand of a population estimated at 831,600. This is the lowest rate since 1884, when 21·9 died in a thousand. Twelve thousand three hundred births were reported and 4,770 marriages. The deaths by phthisis were 2,049. Diphtheria caused nearly 1,000 deaths. Typhoid fever caused 169 deaths, showing an element of increase, notwithstanding the surface wells were all destroyed a few years ago in the hope that an essential cause of fever would thus be obliterated. No case of small-pox is known to have occurred during the year.

THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

A special meeting of this society will be held on January 14th, to consider the question of Expert Medical Testimony, and the following proposed resolution will be discussed as showing a means of dignifying the expert witness's position before the courts:

" *Resolved*, that it is the sense of this society that the physicians who are called upon to give evidence in legal cases with reference to the existing condition of patients should insist, if it be possible, upon meeting in consultation the physicians to be called by the other side, so that there may be a full interchange of views before they give their evidence." Members of the legal profession have been invited to take part in the discussion of this question.

THE UNIVERSITY OF CINCINNATI.

The trustees of the University of Cincinnati have under consideration the establishment of a medical department. The university has recently acquired the right to erect buildings for educational purposes in Burnet Woods, one of the finest of the parks in that city, and medicine can come within the scope of these operations if an ample endowment fund is forthcoming. Two medical colleges—the Miami and the Ohio—have already a nominal relation with the university, and it has been suggested as possible that these separate institutions may be fused into one school.

RHAPHANIA IN RUSSIA.

The British Medical Journal for November 23d has an item regarding the occurrence of a convulsive disorder, called rhaphania, in the department of Wjatka, in Russia; 683 cases have been reported and 34 deaths. This disease is supposed to be identical with chronic ergotism. A thorough investigation has been ordered by the authorities.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 7, 1890:

DISEASES.	Week ending Dec. 31.		Week ending Jan. 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	1	0
Typhoid fever	18	5	17	5
Scarlet fever	75	3	59	12
Cerebro-spinal meningitis	3	3	2	2
Measles	53	7	39	8
Diphtheria	97	40	98	23
Varicella	2	0	1	0

The Ophthalmic Review begins its new volume with an American editor, Dr. Edward Jackson, of Philadelphia, who succeeds Dr. James Anderson, of London. It will hereafter contain original articles from American as well as English ophthalmic surgeons, with notices of all ophthalmological papers published here or abroad and full reviews of the more important of them.

The Presbyterian Hospital has so far recovered from the effects of the fire as to be in good working order with sixty-four beds. The new dispensary building is used as a ward. Being very thoroughly ventilated, it is admirably adapted for this purpose. It will accommodate forty patients. The chapel in the administration building has been fitted up as a ward containing twenty-four beds. The dispensary has been assigned new quarters in one of the buildings erected last summer, and the emergency ward for the reception of those accidentally injured is accommodated on the ground floor of the administration building; so that the regular work of the hospital is going on as usual, only the number of beds has been lessened nearly one half.

The late Dr. Lewis Hall Sayre.—At the annual meeting of the Alumni Association of the Bellevue Hospital Medical College, January 4, 1890, on the announcement of the sudden death of our much esteemed president, Lewis Hall Sayre, M. D., the following resolutions were adopted:

1. That the association receives this intelligence with deep sorrow, and mourns the loss of a member so efficient, so kindly, and so generous withal.
2. That we extend to the family our sincere sympathy in this their greatest hour of affliction.
3. That we attend in a body the funeral services of our late president.
4. That copies of these resolutions be sent to his family and to the prominent medical journals of this city for insertion.

[Signed.]
V. P. Gibney, M. D.,
Henry Goldthwaite, M. D.,
David Webster, M. D.

The Middleton Goldsmith Lecture will be delivered in the hall of the Academy of Medicine on the evening of Wednesday, January 15th, by William Pepper, M. D., LL. D., Provost of the University of Pennsylvania, on the subject of "Hepatic Fever."

The Long Island Railroad Company.—Dr. W. D. Wood, of Jamaica, has been appointed surgeon to the company. He succeeds Dr. Z. P. Dennler, of Long Island City.

The Ontario Medical Association.—Dr. William Goodell, of Philadelphia, has been invited to deliver an address at the next annual meeting, which will be held in Toronto, in June, 1890.

Changes of Address.—Dr. A. J. Fox, to No. 35 West Thirty-sixth Street; Dr. W. R. Gillette, to No. 24 West Fortieth Street.

Society Meetings for the Coming Week:

Monday, *January 13th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement (annual); Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *January 14th:* New York Medical Union (private—election); Medical Societies of the Counties of Chautauqua (semi-annual), Chenango (annual), Clinton (annual—Plattsburgh), Erie (annual—Buffalo), Genesee (semi-annual—Batavia), Greene (quarterly), Jefferson (annual—Watertown), Livingston (semi-annual), Madison (semi-annual), Oneida (semi-annual—Rome), Onondaga (semi-annual—Syracuse), Ontario (quarterly), Oswego (semi-annual — Oswego), Schenectady (annual — Schenectady), Schuyler (annual), Steuben (semi-annual), Tioga (annual—Owego), Wayne (semi-annual), and Yates (semi-annual), N. Y.; Newark (election), N. J., and Trenton (private), N. J., Medical Associations; Norfolk, Mass., District Medical Society (Hyde Park); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *January 15th:* Northwestern Medical and Surgical Society of New York (private); Medico-legal Society (anniversary); Harlem Medical Association of the City of New York; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *January 16th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *January 17th:* New York Academy of Medicine (Section in Orthopædic Surgery); Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *January 18th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Obituaries.

Lewis Hall Sayre, M. D., a son of Dr. Lewis A. Sayre, died suddenly during the night of the 2d inst. At a late hour he returned to his father's house from a professional visit out of town, and was found dead in his chair in the morning. The deceased was a graduate of Bellevue Hospital Medical College, of the class of 1876, and at the time of his death was the president of its Alumni Association. Dr. Sayre was associated with his father and with his brother in practice, and was known in the profession as a clever orthopædist and as an attractive and estimable man. His excellence as a practitioner was not shown exclusively in orthopædics, but it was his work in that specialty that was more particularly brought to the attention of the profession. His early death involves not only a decided loss to his art, but also a peculiar grievous affliction to his family, who will have the sympathy of all our readers unquestionably.

Letters to the Editor.

THE BACTERIOLOGY OF YELLOW FEVER.

Johns Hopkins University, Baltimore, *January 1, 1890.*

To the Editor of the New York Medical Journal:

Sir: In order to avoid confusion and misapprehension, I beg leave to make a few remarks upon the paper by Dr. Stub, in the New York Medical Journal of December 28th, on Bacteriological Investigations in Yellow Fever.

Dr. Stub says (p. 707): "Professor Sternberg, of Baltimore, found in two cases out of nine the same bacillus described by Lacerda and Baker." This should read: Dr. Sternberg, *in material brought from Dr. Lacerda's laboratory*, found the bacillus of Lacerda and *Babes* (not Baker) in two cases out of nine. He says further: "Professor Sternberg also *found* the micrococcus described by Dr. Freire, and named *Cryptococcus xanthogenicus.*" *Dr.* Sternberg (not Professor) did not find the micrococcus described by Freire in connection with yellow-fever cases or cadavers, but in Dr. Freire's laboratory, where it was presented to me by that gentleman as his *Cryptococcus xanthogenicus.* With reference to this see my report just published in the annual volume of the Marine-Hospital Service.

In the descriptive text below Fig. 2 Dr. Stub says: "Bacilli and cocci found in the vomitus niger; the former identical with those described by Dr. Lacerda, Dr. Freire, and Dr. Carmonay" (should be Carmona).

I would remark, *first*, that the micro-organisms described by the three gentlemen named are all different in their morphology, and that no one of them is identical with the straight bacillus in chains represented in this figure; *second*, that a great variety of bacilli and micrococci are found in black vomit, as I can testify from having examined very many preparations, both by culture methods and by the direct examination of stained specimens; *third*, that morphological resemblance, especially in the case of cocci, is entirely insufficient for the establishment of identity.

Finally, although I have not seen Dr. Stub's sections of liver, from his drawing (Fig. 3), and from his account of the appearance presented by them, I venture to doubt whether the objects represented in the liver cells are micrococci.

George M. Sternberg, M.D.

Mount Pleasant, Iowa, *January 3, 1890.*

To the Editor of the New York Medical Journal:

Sir: In the number of your Journal of December 28, 1889, I notice an article by Dr. Arnold Stub, of Brooklyn, on Bacteriological Investigations of Yellow Fever.

On page 708 he gives a drawing of "bacilli and cocci found in vomitus niger," resembling some found by Dr. Sternberg and by J. Baptista Lacerda, who regarded them as the bacilli of yellow fever.

Now I have a slide containing *exactly the same thing* from the sputum of a young lady who had consumption and has since died of that fatal disease. I suppose I must have examined at least fifty cover-glass preparations in this case. I found plenty of tubercle bacilli whenever I followed the directions for obtaining and staining them. In the case of the slide alluded to I merely stained with methyl and got no tubercle bacilli, but these chains of short bacilli. From the fact that I got nothing like it at any other time, I concluded that some adventitious bacterium had accidentally found a lodgment either in the buccal cavity or from the air. The inclosed pencil drawing gives a good illustration. If you deem this of any importance, you might give it to Dr. Stub if he still thinks the bacterium figured actually came from a case of yellow fever and is peculiar to that disease.

H. M. Farr, M. D.

PHENACETIN IN INFLUENZA.

221 Genesee Street, Utica, N. Y., *January 6, 1890.*

To the Editor of the New York Medical Journal:

Sir: I desire to echo the statement made in your last issue by Dr. A. C. Hallam, of Brooklyn—viz., that in the treatment of fifty cases of influenza I have used phenacetin in five-grain doses repeated hourly until fifteen grains had been taken, and in *every case* the severe muscular pains and headache disappeared; following this with five-grain doses, three times daily, of the salicylate of cinchonidine. The disease disappeared upon the fourth day, and in *no cases* have there been any sequelæ either of bronchitis or pneumonia. Phenacetin I consider superior in every way to antipyrine and acetanilide.

Charles R. Weed, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of December 5, 1889.

The President, Dr. A. L. Loomis, in the Chair.

The Health Department and the Conference Committee of the Academy of Medicine.—Dr. J. D. Bryant read a paper with this title. (See page 35.)

Dr. A. Jacobi said that when, two years ago, he had invited a medical member of the health board to read a paper, he had hardly known how fertile would be the results. One thing, however, he had been sure of—that if it were pointed out to the Academy what it could do to aid the Health Department and the public the Academy would stand ready to do that work. The reliance he had felt had been amply fulfilled. While he did not desire to assert that every individual medical man in the Academy was an expert in everything that might come along, he did consider that that body represented the medical profession at large, and from such point of view might be considered expert in all things medical. He would suggest that the attention of the department be called to the method of furnishing in some of the more densely populated houses. All medical men who visited tenement and flat houses, both of the lowest and better kind, knew that there existed one nuisance which, he thought, could easily be removed if proper measures were taken. He referred to the carpet furnishing of a large number of these houses. Many of these houses, which contained from ten to twenty families to a house, had the halls and staircases covered with thick carpets which were never cleaned. These fabrics collected the sputum of consumptives, the desquamations from scarlet fever, and the membrane of diphtheritic patients for safe keeping, and with the ultimate effect of poisoning the community. It seemed to the speaker that the removal of these carpets would be the removal of a great source of mischief, and would really save a great many lives.

Mr. Charles G. Wilson, President of the Board of Health, said he was extremely grateful for the opportunity afforded him of listening to the paper which had been read, dealing as it did with a subject interesting to all—that of the best means of enabling the Board of Health to promote the well being of the people of the city of New York. He had since his connection with the board made a careful investigation of its records from 1873, and was convinced as to the wisdom and necessity of maintaining the closest relations with the medical profession of the city. It was a body not only abreast with the scientific thought of the day, but leading it, making it practical, and transforming the dream of the theorist into the reality of the philanthropist. All laws were but ink and parchment unless followed by public approval, and in their special province no class was so powerful and influential as that of the medical profession. He could assure the Academy that he was voicing the sentiments of himself and his associates when he said that every suggestion coming from the Conference Committee would be well considered and carried out if possible.

Dr. D. B. St. John Roosa thought that at any rate the Academy had been most fortunate in the medical men specially representing it on the Board of Health. He was, however, by no means satisfied with the condition of things in New York. Let this great work done by the Board of Health be considered. Every city that maintained itself at all in the category of decent cities did as much, or there would be no sense in establishing a board of health. As to the assurance given them that all medical matters coming before the Board of Health were referred to the medical members of that board, he considered nothing came before the Board of Health that was not a medical matter, and all such should be in the hands of medical men. He thought it an offense to the profession that the Chairman of the Board of Health was not a medical man. He knew it was of no use to butt the head against a windmill, but he was not going to say he was satisfied. The medical profession in the city of New York did not receive from the public officials, voicing the sense of the community, as much recognition by a hundred-fold as was accorded such departments in Paris and London, or even in some other cities in this country. They had been told that the powers of the Board of Health were ample, and when the time came he did not propose that this statement should be forgotten. They had been told, also, that it was necessary that they wait until May next before this board could give any practical evidence of its power in the matter of the stable-manure nuisance. For his part he was quite sure he should not believe that this nuisance had been removed, even though he saw it. His knowledge of the power of the Board of

Health, together with the history of its work, did not allow him to go home feeling as confident as he should wish to do. After stating that he thought the Board of Health should be made responsible for the filthy condition of our streets, for the dangers from electric wires, and other nuisances which were rife, Dr. Roosa concluded by saying that his remarks had been made in no spirit of captious criticism of the present board, which he believed was one of the best, if not the best, which the city had ever had. His remarks, he said, had rather been intended as a criticism on the medical supineness which submitted to have the power thus kept out of the hands of the profession. The speaker's tirade, delivered without acerbity and with the most palpable good humor, caused much amusement.

Dr. E. G. Janeway thought that much might be urged on the other side of the question. If the Board of Health were to act up to its powers in every instance it would soon cease to exist. He would suggest that the profession assist the board practically by its co-operation. Unfortunately, invidious criticism was too often indulged in instead of active interest in the work in the shape of advice and help. As to the establishment of more hospitals for the reception of patients suffering from infectious diseases, any one who had tried to obtain a location for such an institution would appreciate the fact that it was a matter of the utmost difficulty. He had personally made the attempt for a year and a half, and had each time been thwarted by indignation meetings. He thought that it would be necessary, for a permanent hospital, to secure a location higher up in the city, somewhere toward the water-front. Something had been said about the board's power in reference to the question of the dangers from electric wires. He believed it was a matter of law that when another department was given full power to act in any particular matter the authority of the department having general power in such matter ceased. It was not fair to blame the Board of Health in the matter of the electric wires. The speaker concluded by suggesting that more discretion be exercised in ascertaining the fitness of persons recommended to the board for appointment as its employees.

Dr. Daniel Lewis said that in former years he, too, had held the opinion that it was an injustice to the profession not to have a medical man for president to the Board of Health. Since becoming better acquainted with the duties of that office, however, he now felt that, while it might be a very good thing to secure the services of a physician as president to the board, still it would be a matter of impossibility to get any physician of repute who would be willing to perform the duties of the position. He could fancy Dr. Jacobi going down to the offices every morning at nine o'clock and checking cartage bills and doing an indefinite quantity of such necessary routine work. Certainly in the department all these duties were more or less medical, but they were not of a highly medical order. He was inclined to believe the law was good enough in the matter, and thought that they had a Board of Health with which they might and ought to co-operate. The powers of the board were undoubtedly ample, and, indeed, the danger, if any, seemed likely to arise from the full use of those powers. Public opinion must be respected, and people who had sick children had certainly a right to say whether or not they should be taken away from home. No one else had any right over them unless the public health was jeopardized. It was not proper to take such children from their mothers and nurses and put them among strangers. He did not suppose that the hospitals for infectious diseases had any arrangements for taking in the parents as nurses. Retreats should be provided where such children could be placed with the consent of their families and with the attendance of such physician as the family might choose. In this way the co-operation of the public would be secured to the board, which was quite as important as the co-operation of the medical profession.

After some further remarks by Dr. H. M. Biggs, of the Pathological Department of the Board of Health, urging the medical profession to keep abreast with the more advanced medical work of the day, Dr. Bryant, in reply, said that he felt a certain amount of self-congratulation on two points—first, that he had read the paper of two years ago, though he regretted that Dr. Roosa was not then present; secondly, he was glad that he had read the paper that evening, since it had elicited a discussion which would, he believed, be fraught with good results. He thought there had been two distinct forms of argument adduced—one from Dr. Janeway, who spoke from experience, and one from Dr. Roosa, who could not be said to have any on this particular subject. In the matter of the electric wires, it had been decided by the consensus of legal opinion that the Board of Health had no responsibility. As to the street-cleaning, he was by no means prepared to admit that the board ought or ought not to have charge of it. The death-rate, though it might seem incredible, was during the last few months lower than it had ever been. He was most desirous that the members of the medical profession should acquaint themselves with the working and methods of the hospitals controlled by the board. He wished it understood that the mothers of the children were permitted to go with them when it was necessary to their welfare, and that trained nurses were in constant attendance.

On motion of Dr. Jacobi, it was resolved that Dr. Bryant be requested by the Section of Public Health to read his paper in reference to the manure question at the next meeting of the section.

Resolved, also, "that in future the president of the Academy of Medicine shall be one of the members of the Conference Committee."

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of December 9, 1889.

Dr. Robert Abbe in the Chair.

Rare Form of Shoulder Dislocation.—Dr. C. A. Powers presented a young man who, three years ago last October, had been injured by being caught in a wringer, his right shoulder, it was said, being forcibly drawn against the machine. This injury had been followed by complete disability of the shoulder joint. Three months later a surgeon had placed the patient under ether, and returned the head of the humerus to its place. The bone had, however, slipped out again and had remained in the position in which it was now seen. There was an anterior dislocation, the head of the humerus being in front of the glenoid cavity. When the elbow was raised and the bone manipulated, making an excursion upward and inward, its head could be made to rest completely above the clavicle. When the arm was approximated to the side, the head of the bone could then be pressed very nearly into the glenoid cavity. Flexion and extension were nearly complete. When the scapula was fixed, abduction took place to about forty or forty-five degrees. When the head of the bone was grasped by the fingers and the arm rotated, internal and external rotation seemed but little impaired. The greater and lesser tuberosities could be plainly felt, and at about the position of the surgical neck a distinct bony ridge could be made out. It seemed that there had been an anterior dislocation of the humerus, with laceration of the capsular ligament, this rent being quite extensive. The question arose whether there had also been fracture through the head or neck of the bone. The various surgeons who had seen the case did not appear to agree as to the probability of fracture having occurred at the time of the injury.

Dr. J. D. Bryant said that the head of the humerus seemed to be pressing through the capsule and to be separating the fibers of the deltoid; at least he thought he could detect these fibers running off to either side. He doubted very much if there had existed any fracture, though he might have to come to a different opinion upon further examination.

Accidents, Complications, and Results following Internal Urethrotomy in One Hundred and Twenty Cases of Stricture.—Dr. George E. Brewer read a paper with this title. He stated that the cases which he reported included all those of which he had any record, whether favorable or unfavorable. This list would be given, together with an account of the normal caliber of the urethræ, the number, size, and location of the strictures, the symptoms for which the patient had sought relief, the complications, and the results, immediate and remote, which had followed the operation as far as could be ascertained. The operation in each instance had been undertaken for the relief of certain symptoms which had been thought to be directly or indirectly traceable to the stricture. Of the one hundred and twenty cases reported, in all but three a distinct history of gonorrhœa had been obtained; in the remaining three no cause could be ascertained which would adequately account for the presence of the stricture, although in one excessive masturbation had been practiced, and in one other the occurrence of lithæmia, with impacted urethral calculus, had been probable. In but three instances had the normal caliber of the urethra been found to be below 30 mm. in circumference, and these had occurred in individuals exhibiting also arrested development in other portions of the body. In twenty-one cases the normal caliber had been found to be 30 F.; in 44, 32 F.; in 29, 34 F.; in 2, 35 F.; in 17, 36 F.; in 1, 38 F.; in 3, 40 F.—the average being about 33 F. The number of strictures in each case had varied from one to seven. Their location had, in all but one instance, been confined to the anterior urethra, or that portion between the meatus and the bulbo-membranous junction. The exception had occurred in a patient who had had a dense fibrous stricture in the membranous portion of the urethra, together with a second band anteriorly, which had rendered the combined operation of external and internal urethrotomy necessary. In regard to the method of operating, it might be stated that in all cases where the stricture had occurred at the meatus or within three quarters of an inch of the orifice the operation had consisted of an incision made with a straight blunt-pointed bistoury on the floor of the canal. Where the stricture had been situated at a point deeper than three quarters of an inch from the external opening, dilating urethrotomy, by means of the Otis dilating urethrotome, was practiced, the cut being made on the roof of the urethra. A departure from this rule had been made in but one instance—where a dense fibrous band located at four inches from the meatus had been divided on the floor. This had been immediately followed by an alarming profuse hæmorrhage, an extensive urinary infiltration, chills, and fever, rendering the patient's condition extremely critical. Cocaine had been employed for anæsthesia in one hundred and sixteen cases; ether in four. The method of producing cocaine anæsthesia had been as follows: By means of an Ultzmann or other long-pointed syringe, about thirty minims of a four-per-cent. solution of cocaine was injected into the bulbous portion of the urethra. As the syringe was withdrawn, the lips of the external orifice were gently compressed with the thumb and forefinger. The solution was in this manner retained for ten minutes, which was found to be sufficient to render the entire anterior urethra insensitive, save that portion compressed by the fingers. As this was always the most sensitive part, the hypodermic injection of two or three minims of the solution just below the meatus would render the whole absolutely insensitive to pain. In only two instances where this method had been fully carried out did the patients complain of pain during the operation. Regarding the after-treatment, it had been found that the daily passage of a full-sized sound to the bulbo-membranous junction, during the first four or five days, had been by far the most comfortable for the average patient, as the pain attending its passage had always been more marked and the hæmorrhage more severe after the cut surface had been allowed to glue together for two or more days.

If recontraction of the stricture was to take place, it was usually possible to detect a tendency toward this within fourteen days from the date of the operation; when this was found, further use of the sound was abandoned. If after three weeks the urethra was healed and there was no evidence of recontraction of the strictures, the use of the sound was discontinued. The use of sounds for an indefinite period after an operation, with a view to "keeping the stricture open," was wholly unnecessary. If a stricture was to be cured by urethrotomy, it must be by division, which did away with the prolonged after-treatment by dilatation. In reviewing the symptoms complained of by patients, which were supposed to be occasioned directly or indirectly by the strictures, it was found that gleet was present in ninety-two cases. In eleven cases there was frequency of micturition, in thirteen some disturbance of the sexual function; of this last number, eleven complained of diminished sexual vigor. Chronic prostatitis was diagnosticated in six patients who had complained of various abnormities in the sexual and urinary functions. Neuralgia was present in four instances. Among the unfavorable complications which were likely to occur as a result of this operation might be mentioned, first, severe hæmorrhage. This had occurred in six of the one hundred and twenty cases. Of these, three had been primary and had occurred at or near the time of the operation, and three secondary, coming on after a period which had varied from one to three weeks. In the treatment of hæmorrhage it was rarely necessary to institute measures other than rest and gentle pressure applied against the lips of the urethral orifice. For controlling violent hæmorrhage from the anterior urethra Dr. Otis had suggested the introduction of a full-sized endoscopic tube, upon which any amount of pressure might be brought to bear by means of an external bandage. The application of heat, by means of the retrojection of very hot water, had served in one instance to check a persistent and very annoying hæmorrhage. Chills and fever might be mentioned as the second complication likely to follow urethrotomy. This had followed the operation in three cases. In every instance the chill had come on after the passage of the sound through the deep urethra. Epididymitis as a complication had occurred in two patients, and in each it had followed the passage of a sound through the deep urethra. Infiltration of urine into the cellular tissue of the penis had occurred in one case where the cut had been made on the floor of the urethra. The treatment of this last condition consisted in regular catheterization, hot retrojection, and the external application of heat, the object being to prevent its recurrence and prevent septic infection of the infiltrated tissues and to promote absorption. Acute urethritis had followed the operation in ten cases. A slight ecchymosis had appeared in the skin of the penis in the vicinity of a cut in four of the cases, and was of interest only on account of its relation to a more or less lasting curvature of the penis on erection. In the treatment of this condition use had been made of inunctions of oleate of mercury, the galvanic current, and massage. Suppression of urine might occur as a complication in cases of urethrotomy, but this could best be avoided by confining all operative procedures to the anterior urethra and by the employment of strict antiseptic precautions.

The results which had followed urethrotomy in these one hundred and twenty cases were considered under two heads—clinical and anatomical. Of the ninety-two patients who had complained of gleet, fifty-three had been relieved, eleven had not been relieved, and in twenty-eight the result was unknown. Of the eleven who had had frequent micturition, nine had been relieved, one had been unrelieved, and in one the result was unknown. Those complaining of sexual neurasthenia had been relieved. The speaker had purposely avoided the term "cured," because he did not consider that the cases had been sufficiently long under observation to warrant such a conclusion. In regard to the anatomical result it might be stated that, of the one hundred and twenty cases reported, thirty had been re-examined after a period varying from two months to three years. In nearly every case where the meatus had been divided it had been found to have contracted slightly—from one to three millimetres in circumference. Of the thirty cases re-examined, twenty-one had been found to be free to the normal caliber, and in nine recontraction had taken place. The conclusions were: 1. That internal urethrotomy as a means of treating stricture of the anterior urethra was a comparatively safe operation. 2. That, by the intelligent application of a few well-known measures, alarming hæmorrhage could, in nearly all cases, be avoided. 3. That the occurrence of a more or less lasting curvature of the penis after operations was probably due to the extension of the incision beyond the necessary limit. 4. That, with the exception of the meatus, the practice of dividing anterior strictures on the floor of the urethra should be condemned as a dangerous procedure. 5. That the passage of instruments through the deep urethra should, if possible, be avoided immediately after the operation. 6. That in a majority of cases, by a thorough and complete division of all stricture bands, a radical cure and complete restoration of the canal to its normal caliber might be expected. 7. That all attempts to prevent recontraction in imperfectly divided strictures by means of dilatation were useless.

The Chairman remarked upon the comparative infrequency at the present time of external urethrotomies for strictures of the deep urethra. Fifteen years ago it had seemed that we very often saw cases of this character, while they were now met with but rarely, owing probably to the more general surgical interference by cutting and the consequent greater freedom from stricture among persons who would otherwise suffer from it. He had seen four cases of neuralgia resulting from stricture, three of which had been relieved by division of the strictures. He believed there were many cases of neuralgia, both urethral and reflex, from this cause, either unrecognized or unrecorded. In the cases he had seen, the neuralgic pains had been referred to the thigh and lower extremities.

Dr. F. N. Otis expressed the great satisfaction he had derived from listening to the paper. It seemed to have been based on careful and intelligent deductions, and the conclusions drawn seemed entirely warranted. The methods of operation were those which the speaker had ventured to advocate and which he had found to be successful in his own practice. He thought that as operators gained experience in this line of practice they would be led to do more rather than less in the matter of incisions. Of course there were reasonable limits, but the localized band of adventitious tissue constituting the stricture should be divided completely wherever it might be situated. Cases might perhaps exist in which the division of the cicatricial tissue, owing to the extent of the deposit, might be found impracticable, but such cases were extremely rare. At least division of the stricture should be made up to the full capacity of the urethra, having always in mind the relation which the size of the urethra bore to that of the penis. This relation would be found for all practical purposes a constant one. For instance, supposing that the penis measured three inches and a quarter in circumference, it would always be found that there existed a normal urethra of thirty-two millimetres in circumference. For every quarter of an inch added to the circumference of the penis there would be a corresponding increase of two millimetres in the circumference of the urethra. This point would be found of increasing importance to those who gave it attention, and his experience led him to suggest it to the profession as a fact which might be accepted without hesitation. As to curvature of the penis occurring after operations upon the urethra, he had seen quite a number, and was not inclined to attribute them to deep divisions. He thought it was best accounted for by the gluing together of the fascia of the corpus spongiosum, or to some infarction within the mucous membrane of the urethra. He had, however, seen it occur in cases where there had been no division of the fascia surrounding the corpus spongiosum. So far as the speaker's experience went, he had not found these curvatures characterized by permanence. They seldom lasted more than two or three weeks. A patient might always be assured that the condition would pass off entirely. He had for some time been in the habit of treating these cases by massage, and still continued to employ this treatment, but now performed with a sound in the urethral canal as suggested by Dr.Harttley. The oleate of mercury he had also used, but, as this had always been in combination with other therapeutic agents, he could not specify the exact benefit derived from its use. In cases where the curvature was assumed to be due to adhesions he would put the penis upon the stretch, when these adhesions would sometimes give way with an audible snap, some slight hæmorrhage occurring. Some patients having slight curvature would, upon connection, notice a little bleeding, which would be followed by immediate relief of the contraction. He thought the showing of the statistical portion of the author's paper should encourage those looking toward the cure of stricture by internal urethrotomy. So far as he knew, there was not on record, in any authoritative work on the subject, a single case of cure by dilatation. They might, however, in the course of the discussion hear evidence to the contrary from those who advocated this method to the exclusion of internal urethrotomy. It was a most desirable thing so to deal with these strictures that patients might at the earliest possible moment be released from their bondage to the surgeon. Patients should not be allowed to go on without hope of cure, and with the knowledge that as they got on in life the difficulty would augment until they sought assistance by an operation of grave import upon important organs.

Dr. F. R. Sturgis thought that even with ordinary care the operation advocated by the author of the paper was a dangerous one. There was always a possibility of cutting too deeply, and that was why they were advised not to cut upon the floor of the canal. The upward incision was certainly the only one which should be made, and even then the liability was great of making the incision too deeply. He agreed with Dr. Otis in thinking that the cases of curvature were in no way resultants of the incisions. In chordee, occurring as it did in the earlier stages of gonorrhœa, there were no incisions or infiltrations, but there was most decided curvature. He believed that the condition arose from inflammatory processes and the invasion of lymph into the spaces. The curvature, provided it was not due to the fibrous sheath being cut through, was pretty sure to disappear. Hæmorrhage was certainly a source of danger, and was often difficult of control. He agreed with Dr. Brewer that the operation should never be practiced until the inflammatory symptoms had entirely subsided. Where œdema existed or where pus was found in the urine, internal urethrotomy should never be performed, but the perineal section must then be resorted to. He was surprised to hear the author of the paper advocate the passing of sounds the day following the operation. He was in the habit of leaving this till the third or fourth day, and did not believe the chance of hæmorrhage was thereby enhanced, but diminished. Epididymitis was always a possible complication; some patients seemed to have it if only approached, and some could not tolerate the use of sounds under any circumstances. He did not deem the passage of instruments through the deep urethra the cause of epididymitis, cystitis, or surgical fever, and he did not see how the full benefit of the treatment could be obtained unless the instruments were so passed. Recontraction was very liable to occur, and was due to incomplete division. He did not believe the operation curative, though it was a step in that direction. If contraction did occur, it would probably do so within a month. The condition of the urethra behind the stricture was the cause of much mischief, and, of course, before this could be restored the removal of the stricture was necessary; he doubted, however, if division of the stricture proper was often effected thoroughly. On the other hand, he had seen cases with Dr. Bumstead in which dilatation had been resorted to with perfect success and with no recontraction after ten years. The speaker concluded by speaking favorably of the method of rapid dilatation advocated by Holt.

Dr. A. G. GERSTER, in the course of his remarks, said that he was glad to hear Dr. Otis say that there existed cases of stricture in which complete division was not possible, or at least not proper. The term stricture was, he thought, used too promiscuously. A stricture of the urethra demonstrated four or six weeks after a gonorrhœa was of a different type from that which had lasted some thirty years, and, as regarded the operation, these should not be classed together. In some of these old cases of callous stricture the peri-urethral tissues, the skin, and finally the scrotum, would be found involved, and it was folly to expect the operation to cure such as these, the pathological condition of which he would compare to elephantiasis. He did not believe they could be cured at all, and the best that could be done was to maintain a moderate caliber of the urethra by repeated dilatation. As a matter of practice he advised division, because it was the most rapid method of curing these strictures, and this was a matter of great importance to many patients. He considered internal urethrotomy a safe operation if the cases were properly selected. He had never seen a case of serious hæmorrhage. He thought the author of the paper made a mistake in passing his sounds so early. It was his custom to observe the strictest aseptic and antiseptic precautions in treating these cases, and he thus avoided complications such as cystitis. The speaker then exhibited an instrument which he had designed for use in dividing strictures by internal urethrotomy, one of the principal merits of which was the readiness with which it could be taken apart and cleaned.

Dr. L. B. BANGS considered internal urethrotomy a perfectly safe operation—he meant the operation as performed with the use of the Otis instrument. He did not agree with Dr. Sturgis, who, he thought, laid too much stress upon the depth of the incision. He would urge that the operation was one which should never be undertaken without due regard to the proper care of the patient immediately afterward. He deprecated the custom of doing this operation at physicians' offices or at clinics and letting the patient go away directly afterward. While this might be done with impunity for a long time, it was taking grave chances, and would sooner or later lead to disastrous results. As to the best time for the introduction of instruments, he thought it was probably within the first twenty-four hours, and if there was then any necessity for delay it might be left for a week. He had seen no cases where this plan had been followed in which the general results had been anything but good, or in which any serious hæmorrhage had been caused in the urethra. Of course, there were cases in which some discretion must be used. He considered proper care of the urethra, both before and after the introduction of sounds, a most important thing.

Dr. R. M. FULLER thought that all fibrous strictures should be cut, though it was just as well to pass a sound several times and ascertain if the stricture was dilatable or showed any tendency to contract. It was best to cut, and cut thoroughly. He thought a sound ought to be passed the day after the operation; it could then be omitted two or three days without any trouble.

Dr. HOPKINS thought that in many cases of stricture in old men, many of whom suffered from chronic inflammation of the bladder, the divulsor should be used.

Dr. BRYANT said he had had some experience with both the dilatation and incision of strictures. It was his custom to employ dilatation when a gleety process existed or until the patient became tired of this method and desired a more radical interference; then, if the stricture was of such a character as to warrant it, he would operate. He had been somewhat amused at the tenor of the discussion. Those who devoted their time largely to the dividing of strictures and characterized the operation as a safe one were very careful to caution others who might follow the method. Hæmorrhage had occurred certainly in his cases, but whether it could be called dangerous hæmorrhage depended upon one's idea of the definition of the term. The sound, he thought, might be introduced twenty-four hours, and then forty-eight hours, after the operation. He believed in internal urethrotomy, but he did not believe in the indiscriminate use of it.

Dr. ALEXANDER advised the employment of aseptic treatment, by which he meant irrigation of the urethra daily during the first week after the operation. It was his custom to use simple borax solution. The sounds, he thought, should be passed in twenty-four hours; if allowed to go for a week the meatus was almost certain to be found contracted. Hæmorrhage, he thought, depended upon where the urethra was cut; if the bulbous portion of the urethra was involved he preferred the external operation. Hæmorrhage after division in the first four inches and a half of the canal he considered rare.

Dr. OTIS said that, in the event of hæmorrhage, pressure should be made as near as possible to the point cut. Simply holding a meatus between the fingers did not agree with his ideas of arresting hæmorrhage. Every endeavor should be made to keep the blood from being carried back into the posterior part of the urethra or into the bladder. Such bleeding was usually readily controlled by the introduction of a tube with external pressure by a bandage. It only required the same amount of care and attention on the part of a surgeon as hæmorrhage in any other situation.

Dr. BREWER said that, if the passage of sounds was delayed, for instance, until the third day, it often caused pain much more severe than if it was done earlier. By passing the instrument up to the bulbo-membranous junction, it simply passed the point of division, which was all that was necessary. These operations were not intended for soft chronic strictures. In the large, dense strictures complete division could sometimes be effected, but more often this was not the case.

A Bladder Curette.—Dr. HOPKINS then exhibited an ingeniously contrived instrument with which he had successfully curetted the internal surface of the male bladder.

An Improved Evacuator.—Dr. OTIS showed the practical working of a very scientifically devised improvement which he had lately perfected upon his original evacuator for the purpose of removing the detritus after the operation of litholapaxy. By its use the objectionable feature, consisting in a hitherto unavoidable return of a certain amount of the particles of crushed stone during the process of evacuation, was absolutely and most ingeniously avoided. The "perfected evacuator" consisted of a strong glass bulb, two inches in diameter (the reservoir), into one side of which a hard-rubber tube was inserted, curving down to its lowest part. The superior end of this tube connected directly with the proximal end of the evacuating catheter. To the floor of the reservoir a strong glass bottle (the receiver) was connected by screw threads molded on the necks of the receiver and reservoir respectively and fitting a hard-rubber collar, into which the corresponding screw thread was cut. On the side of the reservoir opposite the tube connecting with the evacuating catheter was another tube of smaller caliber curving upward to near the top of the globe. By this means the current was so directed that it flowed between the two tubes, leaving the receiver below a perfectly dead point, and fragments, dropping into it of their own weight, remained quietly there without the intervention of traps, strainers, or valves, and, this part of the instrument being entirely transparent, it was easy to observe that the fragments did not return to the bladder. Connecting with this tube of entrance to the reservoir was a strong rubber bulb which in some form constituted the power in all the modern evacuators. A small stop-cock had been inserted into the end of this bulb for convenience in introducing fluid into the bladder during operation. This was the only stop-cock connected with the instrument, as the atmospheric pressure was found to be sufficient to retain the water in all positions necessary during operation. In case, however, it became desirable to lay the instrument down on its side, a hard-rubber plug had been added which fitted the tube of exit. The joints of the nstrument had all been constructed in such a manner that they were brought tightly against the glass by means of screw threads, so that freedom from leakage was assured; there was no cementing substance to give out, and the surgeon could himself take the instrument entirely to pieces, either for cleansing or to replace an injured part. To fill the instrument it was only necessary to submerge the end of the large tube, remove the plug, and, by repeated pressures on the bulb, the air would be replaced by the fluid; should any air still remain, it was of no particular import, but might be entirely removed by inverting the instrument, when the air would flow into the receiver, which could then be disconnected and the air let out under water.

After a crushing, the lithrotrite having been removed, a suitable tube was introduced into the bladder, and whatever fluid remained allowed to flow out.

The instrument presented did not differ from the one previously described by him (see New York Medical Journal, August 24, 1889) except in its construction, which was now uch that the instrument could be entirely taken apart and cleansed, or an injured part easily replaced by the surgeon himelf. One of the great difficulties in the construction of all evacuators had been the inability of the instrument-makers to discover a cementing substance which would stand the changes of temperature and moisture to which these instruments were necessarily subjected, so that the joints in these instruments very rapidly worked loose and caused great annoyance by leaking, if they were not rendered entirely useless. In the present orm of his instrument the speaker had had the joints all contructed in such a manner that they were brought tightly against the glass by means of screw threads, so that freedom from leakge was assured and there was no cementing substance to give out at perhaps a critical moment.

Book Notices.

A Hand-book of Physical Diagnosis of Diseases of the Organs of Respiration and Heart, and of Aortic Aneurysm. By R. C. M. Page, M. D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic; Visiting Physician to St. Elizabeth's Hospital, etc. New York: J. H. Vail & Co. Pp. 297.

An admirable little treatise, convenient in form, condensed in matter, printed in clear, well-spaced type on an excellent quality of paper, comprehensive in scope without prolixity, terse and definite in phraseology, accurate and scientific in the exposition of anatomical relations and of signs and symptoms upon which physical diagnosis is based, this addition to medical literature is attractive and readable both to the student and to the practitioner—to the student, because the definitions are clear and concise, and the description and the signification of normal and pathological phenomena with the aid of which he must make his diagnosis in a given case are enunciated in easily understood terms; to the practitioner, because a glance at these systematic pages will quickly recall to his mind the varied data to be obtained in a given case by a complete physical examination.

The drawings in which the work abounds are by Dr. Henry Macdonald, and the numerous lithographs illustrating pulmonary and cardiac diseases are also from drawings by the same gentleman.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M. D., LL. D., F. R. C. P., Physician-Accoucheur to H. I. and R. H. the Duchess of Edinburgh; Professor of Obstetric Medicine in King's College, etc. Fifth American from the Seventh English Edition. With Notes and Additions by Robert P. Harris, M. D. With Five Plates and Two Hundred and Seven Illustrations. Philadelphia: Lea Brothers & Co., 1889. Pp. xxv–33 to 671. [Price, $4.]

Conciseness and clearness characterize this work, which ranks among the best offered to the student or practitioner. The conservatism of Playfair's teachings makes him a safe guide in obstetric procedures. New illustrations have been added, and new short notes, together with a comprehensive exposition of the conservative Cæsarean operation, and recent advances in the treatment of extra-uterine pregnancy. The arrangement and style give much in a small space; and the book recommends itself in every way to the busy physician seeking facts and the rational conclusions that are the outcome of facts.

Anatomie topographique du duodénum et hernies duodénales. Par Jonnesco, prosecuteur provisoire de la Faculté, interne des hôpitaux. Avec 13 planches (21 figures) hors texte. Paris: Lecrosnier et Babé. [Publications du Progrès médical.]

For any one who wishes to make a very close study of the anatomy of the duodenum it is impossible to suggest a better work than this. It is almost painfully minute in its details, very few of which, if any, can have escaped the close observation of the author. But it seems to be fitted only for those who wish to make a special study in this direction, for its minuteness renders its perusal wearisome to a student or to an ordinary practitioner without furnishing him sufficient practical information to recompense him for the expenditure of time and labor. The very rare form of hernia of the duodenum is thoroughly described. Altogether the book does not impress one as being practical. It is very erudite and bears the impress of a great amount of labor, but it deals with a subject which can hardly be considered of great importance to the general practitioner.

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The Laurie Case: the Medical Evidence Dissected. By Dr. Campbell Black.

The National Medical Dictionary; including English, French, German, Italian, and Latin Technical Terms used in Medicine and the Collateral Sciences, and a Series of Tables of Useful Data. By John S. Billings, A. M., M. D., LL. D. Edin. and Harv., D. C. L. Oxon., Surgeon U. S. A., etc. With the Collaboration of W. O. Atwater, M. D., Frank Baker, M. D., S. M. Burnett, M. D., W. T. Councilman, M. D., James M. Flint, M. D., J. A. Kidder, M. D., William Lee, M. D., R. Lorini, M. D., Washington Matthews, M. D., C. S. Minot, M. D., H. C. Yarrow, M. D. Vol. I—A to J. Pp. xlvi–731. Vol. II—K to Z. Pp. 799. Philadelphia: Lea Brothers & Co, 1890.

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Reports on the Progress of Medicine.

HYGIENE AND PUBLIC HEALTH.

By S. T. ARMSTRONG, M. D.,
U. S. MARINE-HOSPITAL SERVICE.

The Bacteriology of Actinomycosis.—Dr. V. Idelson (London Medical Recorder, April 20, 1889) reports that, at the third Congress of Russian physicians, Dr. Nadejda K. Schulz and Dr. M. I. Afanasieff stated that they had isolated the bacteria of actinomycosis, they believing that former investigators had experimented with contaminated cultures. After disinfecting the oral cavity of a patient the sputum is collected, or pus is taken from a metastatic abscess, and any yellowish or whitish grains picked out by a platinum needle and placed in test tubes containing blood serum, beef broth, gelatin, or agar. The tubes are kept in the thermostat from three to fifteen days at 37° C. In the broth gray round granules soon appear; on blood serum the granules are yellow; on agar and gelatin in from seven to nine days minute granules appear, like actinomycotic products in man. Under the microscope these grains, varying in diameter from 0·1 to 1 millimetre, represent a felt-like structure, composed of interweaving filaments arising from a common center and proceeding radially to a periphery. They believe it is not a fungus, but a *cladothrix*, and, on account of its radial arrangement, should be called *actino-cladothrix.* Actinomycosis has been produced by inoculating animals with pure cultures of *actino-cladothrix.* It may be distinguished from *leptothrix* by the thick, straight, non-ramifying threads of the latter, while *cladothrix* filaments are fine, wavy, and dichotomizing.

Experiments upon the Tuberculous Infection of Chickens.—Professor A. Maffucci (*ibid.*) made a solution of a blood-serum culture of tubercle bacillus in broth, and inoculated—as a control, a hen and guinea-pig—eighteen eggs. The guinea-pig and hen died of tuberculosis, thus demonstrating the purity of the culture. In three weeks eight eggs hatched, the remaining ten being either unimpregnated or without embryo. In the unimpregnated eggs unchanged tubercle bacilli were found. One chick died thirty-six hours after birth; neither tubercle nor bacilli were found in its organs. Second chick emaciated, died in twenty days; tubercle nodules found. The third died on the thirty-second day, the fourth on the fortieth day, the sixth on the forty-seventh day, the seventh on the seventy-eighth day, the eighth in four months and a half—all tuberculous. The fifth died on the forty-third day; no bacilli found. The author believes infection of the embryo takes place in the area vasculosa, the virus being absorbed from the albumin, and the liver is thus first affected.

Diffusion of the Tubercle Bacillus outside the Body.—Dr. Cornet (Zeitschrift f. Hygiene, Bd. v, p. 191) has made a number of experiments with dust removed from the walls of rooms in private houses and public institutions, and in one case from a hotel room, that had been occupied by consumptives. The dust was taken from places that could not easily be contaminated by expectoration; and, dissolved in sterilized broth, it was injected into the peritoneal cavities of healthy animals. In due course of time the animals died with tuberculosis. He made a series of control experiments by sterilizing the dust and then injecting it; but tuberculosis did not follow. If, however, to the sterilized dust he added dried tuercular sputum, tuberculosis occurred.

The experiments demonstrated the necessity of disinfecting the sputum and effects of tuberculous patients, and of proper disinfection of rooms occupied by them. He thought this should be done by rubbing the walls with bread. Kissing of children by strangers or licking by dogs should not be allowed. Phthisical mothers should not nurse their children, and wet-nurses must be carefully examined; cows' milk should be taken from cows inspected by a physician. Library books may be sources of infection. Second-hand furniture, if purchased, should be carefully disinfected. Free-disinfection ovens should be established in all cities, and the state should destroy tuberculous cows and swine. Above all, it is necessary to recognize the possibility of the transmission of tuberculosis from affected to healthy persons.

The Disinfection of Fæces.—As the result of extensive experiments with different lime salts as germicides for various micro-organisms, Liborius concluded (Zeit. f. Hygiene, 1887, p. 47): 1. In a watery solution of 0·0074 to 0·0246 per cent. of quicklime, typhoid and cholera bacilli were destroyed in the course of a few hours, the latter requiring longer time than the former. 2. In bouillon cultures of the cholera bacillus that contained coagulated albumin, and thus in physical characteristics presented as unfavorable ground for the action of the lime as natural cholera dejections, in the course of a few hours the addition of 0·4 per cent. of purified quicklime or 2 per cent. of crude quicklime in small pieces to the stools would completely disinfect them. 3. This action of quicklime may be obtained under the most difficult circumstances, and in a most energetic way, if a clean, pulverized quicklime is used, or a twenty-per-cent. watery solution of quicklime.

An investigation of the germicidal properties of certain acids and alkalies was subsequently made by Dr. Shibasaburo Kitasato (*ibid.*, Bd. 3, p. 404), the experiments being made with the typhus and cholera bacilli, and the time was from four to five hours; the volumetric per cent. necessary to destroy the bacilli is given in the following table:

	Typhoid.	Cholera.
	Per cent.	Per cent.
Sulphuric acid	·08	·049
Hydrochloric acid	·20	·132
Nitric acid	·20	·132
Sulphurous acid	·28	·148
Phosphoric acid	·3	·183
Acetic acid	·3	·2
Carbolic acid	·34	·2
Formic acid	·356	·22
Oxalic acid	·366	·285
Lactic acid	·4	·27
Citric acid	·476	·3
Tannic acid	1·66	1·3
Boric acid	2·7	1·33
Quicklime	·0966	·1004
Caustic potash, or soda	·18	·237
Ammonia	·3	·338
Lithium carbonate	·666	·72
Potassium carbonate	·81	1·0
Boron hydrate	1·0	1·3
Ammonium carbonate	1·0	1·42
Sodium carbonate	2·47	3·45
Potassium iodide	9·23	9·23
Potassium bromide	10·37	10·37
Potassium chloride	12·0	12·0

This table shows that, excepting sulphuric acid, quicklime has a stronger germicidal effect than any acid or alkali, and that this effect is not shared by other alkalies.

In order to determine in what manner and form quicklime was most efficacious, a series of experiments were made by Dr. E. Pfuhl (*ibid.*, Bd. vi, p. 98). Pieces of lime and powdered lime were added to typhoid dejections in the volumetric proportion of 2, 3, 4, 5, and 6 per cent. It required the latter strength two hours to sterilize the dejections. Lime-water was added in volumetric per cent. of ½, 1, 2, and 3, and examinations were made in one, two, five, and twenty-four hours, and five days; with the first strength numerous colonies of bacilli were found at each examination, but with the 2- and 3-per-cent. experiments no development of bacilli occurred. He concluded that pieces of quicklime would not always dissolve in the dejections, and that powdered quicklime was apt to form lumps, thus interfering with the germicidal effect; but if lime-water was used, being added to the dejections to be disinfected and thoroughly stirred therewith until the mixture would change red litmus-paper to a pronounced blue, the stools would soon be disinfected. In war times the quicklime would be easily sent to the seat of war by the ton, and the lime-water prepared in any vessel, or even a hole in the ground.

Dr. Richard and Dr. Chantemesse (Revue d'hygiène, July 20, 1889) state that the foregoing results were so unexpected and at the same time so valuable in practice that they believed it a duty to repeat the experiments. In flat-bottomed flasks fifty cubic centimetres of typhoid stools were introduced, and the flasks and contents were sterilized; then four of them were inoculated with typhoid bacillus, and two others with the bacillus that they believed caused dysentery. In eight days they had pure cultures of the typhoid and dysenteric bacilli in fæcal matter, and they had for disinfection purposes the conditions that exist in practice. They added to the cultures a cubic centimetre (two per cent. of the volume in each flask) of a twenty-per-cent. solution of lime, of a five-per-cent. solution of chloride of lime, of a one-per-cent. bichloride solution, and one-per-cent. bichloride solution with five per cent. of hydrochloric acid; with a drop of the mixtures thus made they inoculated gelatin tubes in one half, one, two and a half, and forty-eight hours, following the Esmarch process. The typhoid inoculations with both disinfections of bichloride of mercury, as well as chloride of lime, contained living germs in forty-eight hours, whereas the inoculations with the twenty-per-cent. lime-water solution were sterilized in half an hour. The same result was obtained with the dysenteric experiments.

It suffices therefore, when it is necessary to disinfect typhoid, dysenteric, or choleraic stools, to place therein two per cent. of their volume of lime-water. Closets and latrines that have had such discharges thrown into them may be disinfected by the addition of the proper per cent. of lime-water.

Dr. Charles J. Foote, in the American Journal of the Medical Sciences for October, 1889, describes a series of experiments that he made in sterilizing fæces, using a solution containing corrosive sublimate, ʒ ij to a gallon of water; a second solution containing chlorinated lime, ℥ iv to a gallon; a third, containing sulphate of iron, ℥ xviij to a gallon; a fourth, containing corrosive sublimate, ʒ ij, tartaric acid, ʒ x to a gallon; a fifth, a one-per-cent. solution of hydrochloric acid; a sixth, corrosive sublimate ʒ ij, hydrochloric acid ʒ x, to a gallon; a seventh, a five-per-cent. solution of carbolic acid; and an eighth, corrosive sublimate ʒ ij, potassium permanganate ʒ ij, to a gallon. Normal fæces, mixed with two thirds their bulk of decomposing urine, were used as a test mixture, five hundred cubic centimetres of this mixture being regarded as equal to a dejection.

To two hundred and fifty cubic centimetres of the mixture of fæces were added five hundred cubic centimetres of the disinfectant to be tested. This was thoroughly mixed with a glass rod, filtered through cotton into a sterilized flask, and inoculations made from the filtrate into tubes of sterile beef bouillon and of nutrient gelatins. The results are tabulated by the number of tubes remaining sterile:

	1 hour.	4 hours.	48 hours.
	Per cent.	Per cent.	Per cent.
Bichloride solution	8	25	60
Chlorinated lime	80	75	50
Bichloride and tartaric acid	30	50	70
Bichloride and hydrochloric acid	75	87	87
Hydrochloric acid	0	0	66
Carbolic acid	0	0	50

These experiments show that, while chloride of lime is a rapid disinfectant, its results are less permanent than those obtained by using bichloride of mercury and hydrochloric acid. All experiments with the mercury preparations demonstrate that their disinfecting power increases with the time duration of their action. The author, in his conclusions, emphasizes the necessity of using fresh solutions of chloride of lime.

Sanitaria for Tuberculous Children.—Dr. Léon Petit, in a paper read before the Société française d'hygiène (Journal d'hygiène, Sept. 5, 1889), stated that a number of prominent French physicians were interested in the establishment of sanitaria for the gratuitous treatment of poor children. Nine years ago the hospital of Villepinte was established for the treatment of tuberculous young girls, and now has more than two hundred beds. Unfortunately, young boys are not respected by this disease, and an attempt was made to establish a second asylum for their reception; this was successful, and the Armesson Hospital, containing forty beds, has been opened. The association had been offered a large tract on the Mediterranean, situated in a forest of pines at the base of the Estcrel Mountains, for the establishment of a convalescent sanitarium. He recommends the establishment of sanitary colonies for those that have been benefited by the sanitaria, because to these children the cities are dangerous, as they favor the reappearance of what may, in outdoor life, become a latent disease. It is to be hoped that this association will succeed in realizing their ideal, and the experiment will be watched with much interest.

Tuberculosis in Asia Minor.—Dr. R. Robinson, of Constantinople, in a paper read before the Congress for Tuberculosis (Comptes rendus), arrived at the conclusions that tuberculosis was as common in Asia Minor and Cappadocia as in civilized countries; that the inhabitants of those regions recognized that the disease was serious, hereditary, and contagious; that a residence in a hygienic locality protects from the contagion of tuberculosis; and that the most powerful means of contagion was probably the milk of tuberculous cows, meat from such animals being much less contagious.

Disinfection of Wells and the Germ Contents of Ground-Water.—Dr. Carl Fränkel (Zeitschrift für Hygiene, Bd. 6, Hft. 1, 1889, f. 23) divides the subject into a consideration of the ordinary wells and tube wells. He agrees with Plagge in considering that the former are hygienic monstrosities and incapable of being disinfected, and they should be everywhere replaced by tubular wells. A thick pellicle forms in old soil, that effectually precludes the passage of germs beyond certain depths (two to three metres). As the water enters the tube wells absolutely free from micro-organisms, the tube wells in Berlin are usually free from germs. But if the pellicle just referred to is broken at some point, or if the ground is pebbly or gravelly, allowing the transmission of micro-organisms, and as the chemical constitution of the water from these old wells is likely to be of such a character that it will lead to the free growth of micro-organisms, the tubular well may occasionally contain them. In such a case the growth of micro-organisms clings to the sides of the tube. One method of disinfection is to cleanse the sides of the tube by passing a brush to its bottom and then pumping off the turbid liquid; where this proves inadequate, concentrated carbolic and sulphuric acid should be dropped into the tube, and in one or two days disinfection will be complete. If lime should be used for disinfection it would combine with the water to make mortar, and clog the well.

The Mortality from Tuberculosis among Nurses.—Dr. George Cornet has published in the Zeit. f. Hygiene, Bd. vi, Heft 1, f. 64, a study of the mortality rates in the population of towns and cities compared with the mortality among trained nurses, almost 75 per cent. of whom belong to religious orders. In 38 cloisters, having a yearly service averaging 4,028·8 sisters, the aggregate service was 87,450 years during the twenty-five years that the statistics covered. During this period the mortality was 2,099; of this, 1,320 deaths, or 62·88 per cent., were from tuberculosis; 177, or 8·23 per cent., from typhus fever; and the other contagious diseases caused but a small fraction of the mortality.

The most important evidence in the paper is on the contagiousness of tuberculosis. An elaborate table shows the mortality from tuberculosis compared with that from other diseases, demonstrating that the mortality rate of the former attains its maximum between the twenty-fifth and fortieth years, declining in the subsequent decennial epochs. Comparing the death-rate from tuberculosis among nurses with that of the entire population, it is shown that between the ages of fifteen and twenty the mortality among the former class is six times greater than in the latter; between twenty and thirty, it is over four and a half times greater among nurses; between thirty and forty, it is almost three and a half times greater. It is true that other contagious diseases exhibit the same increase of mortality among nurses during the years mentioned; but, as shown above, their disparity is small when compared with tuberculosis.

Among nurses the expectation of life at the age of seventeen is only 19·67 years, while in ordinary life the expectation at this age is 41·17 years. At twenty years the probability of life for a nurse is almost the same as that for an ordinary person aged fifty-two years.

The sanitary conditions of the hospitals varied greatly; in fifteen out of twenty-one hospitals tubercle bacilli were found on the walls and furniture. As former experiments of this author have shown the dissemination of the tubercle bacilli by the air, the excessive mortality from tuberculosis among nurses would seem to be due to contact and the neglect of the ordinary means that should be employed to prevent the spread of the disease.

As his data are the first that have been compiled on so extensive a scale, and allow a comparison of the prevalence of tuberculosis among persons more or less constantly exposed to the disease with the prevalence of this disease among the people at large, it is to be hoped that they will be carefully considered by the members of the profession that still consider the contagiousness of tuberculosis as a question *sub judice*.

Infectious Diseases in French Schools.—By a recent regulation, French school-teachers are required to notify the sub-prefect of the department when a case of infectious disease occurs in their schools. They are also required to forward to the same officer a return of cases of epidemic disease that have appeared during each quarter; these statistics are eventually forwarded to the central authorities of the Sanitary Department.

Compulsory Notification of Infectious Disease in England.—By the recent Infectious Disease Act, that will soon come into force in London, though outside of that metropolis it must be adopted by resolution by each sanitary district, every medical practitioner is required to notify the medical officer of health of the district of the existence of any infectious disease (small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, typhus fever, typhoid or enteric fever, relapsing, continued, or puerperal fever, other diseases being added by resolution of the sanitary authority and approval of the local government board) from which any patient that he may be called in to see is suffering. He is required to make this report on a form that is furnished gratuitously, and is paid two shillings and sixpence for each notice, unless the case occurs in an institution, when the fee is one shilling. A failure to make this report is punishable by a fine of forty shillings.

If the attending physician is the medical officer of health of the district, he is allowed the same fee. The act applies to Scotland and Ireland as well as England and Wales.

This law is the consequence of the repeated efforts of English practitioners to secure from the state the recognition that the service rendered by such notification was entitled to compensation.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

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Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, JANUARY 18, 1890.

Original Communications.

ON THE SELF-REGULATION OF RESPIRATION.[*]

By S. J. MELTZER, M. D.,
NEW YORK.

It is certainly a rather simple experiment to stimulate the central end of the vagus by electricity and to observe the effect of this stimulation on respiration; still, in the entire field of physiology there is hardly any experiment which has been so often repeated and has given rise to the same amount of discussion. More than forty years ago this experiment was first made by Traube,[†] who stated that during stimulation respiration was arrested in the inspiratory phase. Since that time hardly a year has passed in which at least one investigation of this subject has not appeared. Among the investigators we find the most eminent physiologists; and still to-day we are no further advanced in the knowledge of this subject than we were in the first decade of this period of investigation. Even in the first decade we find more than a dozen investigators engaged in the solution of this problem. We find as many views advanced as this subject permits: that respiration is arrested during the stimulation—in inspiration, in expiration, in inspiration and expiration—according to the intensity of the stimulation. Toward the end of the fifth decade of this century, I. Rosenthal entered the field, and his position with reference to this question thenceforth remained the chief center around which most of the later investigations rotated; for Rosenthal[‡] had made the discovery that by stimulating one branch of the vagus—the laryngeus superior—respiration was positively arrested in the expiratory phase. He then attempted to explain the contradictory results obtained by stimulation of the vagus by the assumption that all careful stimuli of the vagus produced only inspiratory effect, while the expiratory effects were caused only by escape of the current to the laryngeus or by unipolar stimuli of the same nerve. Although even after Rosenthal's time many, in fact most, of the investigators adopted the view that stimulations of the trunk of the vagus below the point where the superior laryngeus is given off might produce expiratory effects derived from the vagus itself and not from the simultaneous stimulation of the superior laryngeus, they furnish no other proof than the assurance that they had used no strong currents for the stimulation and had guarded against escape of the current. Now, when Rosenthal,[#] in his Neuere Studien, says that he has not been able to convince himself by the study of these papers that the authors had really avoided all sources of error, we are as yet without any means which would enable us to decide for one or the other view.

Some years ago I also made experiments in this direction, not with the intention of increasing the large number of investigations by still another, but rather in order to enter upon the real point at issue between Rosenthal and the other authors. In the first place, I wished to find some mark which would enable us to recognize whether the superior laryngeus was stimulated or not; secondly, to examine whether the entire basis of Rosenthal's assumption was tenable. The dispute between Rosenthal and the other authors turns on the single question of whether in certain stimulations of the vagus the superior laryngeus had been excited along with it, or not. At the same time it is tacitly assumed that when the superior laryngeus is stimulated with the vagus, its effect must predominate; in other words, if the vagus and superior laryngeus are stimulated at the same time, the action of the latter completely hides that of the former, even when the exclusive stimulation of the vagus causes a pronounced inspiratory standstill. But whence is the justification for this assumption derived? It is clear that the assumption of such a principle can not be made without preceding experimental investigation.

With reference to the former point I believe I can designate the *reflex of deglutition* as a certain landmark by which it is possible to recognize clearly whether the superior laryngeus has been stimulated. Stimulation of the central end of the superior laryngeus produces reflexes of deglutition at least as promptly as it affects the respiration. In the graphic representation of respiration, especially by means of the *phrenograph*, the swallowing motions are marked on the tracing as small inspirations. In the gradual search for the smallest effective stimulation I have always been able to prove that both reflexes—that of deglutition and the influence on respiration—appear with almost the same intensity of the stimulation. If arrest of expiration is obtained by stimulation of the vagus, the presence or absence of frequent deglutition-marks furnishes a criterion whether the superior laryngeus has been stimulated along with it or not. I said "frequent deglutition-marks," because isolated acts of deglutition are also produced by the vagus itself; but the frequency of their occurrence bears no relation to that caused by the laryngeus. For instance, if the superior laryngeus or the vagus is stimulated for ten seconds, we see in the case of the former about ten marks of deglutition, while in the case of the latter one or at most two are produced, and even these only when the stimulation is intense. By studying the graphic curves of other authors, and chiefly by personal investigations, I have been enabled to convince myself positively by the above-mentioned criterion that the expiratory effect in stimulation of the vagus is due to the latter, and not to escape of the current to the superior laryngeus.

As to the second point, I shall here but briefly state that I have made many stimulations of the vagus alone, as well as of the superior laryngeus alone, and of both nerves together, and that the result has been that when stimulations of the vagus produced an absolute inspiratory standstill, simultaneous stimulation of the superior laryngeus showed no additional influence, except the appearance of deglutition-marks on the tracing representing the inspiratory standstill. The manifold details of these investigations will be reported fully in another place. I have cited the preceding experiments only in order to show that in speaking of our experiences with stimulation of the vagus we need no longer fear the escape of the current to the superior laryngeus.

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[*] Read at the annual meeting of the American Physiological Society, on December 28, 1889, in the College of Physicians and Surgeons, New York.

[†] Traube, Medizinal-Zeitung, 1847, p. 20.

[‡] Rosenthal, Die Athembewegungen u. ihre Beziehungen zum Nervus Vagus.

[#] Neuere Studien, DuBois-Reymond's Archiv für Physiologie, 1880, Suppl. Bd., 1881.

What I intend to relate chiefly in this connection is my experience with strong electrical stimulations of the vagus and the significance of these results for normal respiration. In the last few decades hardly any strong stimulations of the vagus have been attempted for fear of the escape of the current. As I no longer feared this escape, I have made such strong stimulations systematically. The results, I believe, are worthy of reporting, but, in order to make them understood, it will be best to report first some of my experiences with stimulation of the vagi by means of weak and medium strong currents. I shall therefore refer to them briefly.

All the animals I experimented with may be divided into three groups. In those of the first group, pronounced inspiratory effects have been obtained with both weak and medium strong currents. In those of the second group it was possible to produce with weak currents an expiratory influence; with medium strong currents, a more or less varying intermediate position. In those of the third group, only pronounced expiratory standstill could be produced, whether the currents were weak or of moderate intensity. Both the inspiratory and the expiratory effects showed a certain after-effect when the stimulation had ceased; but the inspiratory after-effect was incomparably more pronounced than the expiratory after-effect, with reference both to intensity and to duration; with the strength of the stimulation, intensity and duration increased in both after-effects, but most markedly in the inspiratory variety.

But it is different with strong stimulations. No matter how the individuals may vary with reference to stimulation of weak or moderate intensity, they will react nearly alike to strong stimulation. The degree of intensity of stimulation may vary considerably in different individuals, but if we gradually increase the strength of the current we shall be sure to reach an intensity by which a positive expiratory effect will be produced, even in such individuals in whom weaker currents caused a pronounced inspiratory effect. The expiratory effects consist partly in passive and partly in active expirations. These expiratory effects bear a special characteristic in that after cessation of the stimulation but little can be seen of an expiratory after-effect; on the contrary, a characteristic inspiratory after-effect soon manifests itself in such a way as if during stimulation there had been, not an expiratory, but an inspiratory influence.

The appearance of the passive expiration admits of two interpretations—either during the expiratory arrest there is with the active expiration a relaxation of the inspiratory muscles, or else the inspiratory muscles are likewise contracted during the stimulation, but they are overpowered by the stronger expiratory muscles. In order to clear up this doubt, I have divided the spinal cord at the point where the cervical medulla joins the dorsal portion of the cord, whereby the expiratory muscles are almost completely excluded. If the inspiratory muscles were likewise excited during the stimulation and prevented from manifesting themselves merely by the expiratory muscles, then an inspiratory effect alone could be apparent during the stimulation after exclusion of the expiratory muscles. But this was not the case. Even after division of the spinal cord there occurred during the stimulation only a simple expiratory standstill which was absolutely free from active expirations; after cessation of the stimulation, an inspiratory after-effect ensued as usual. Hence proof is furnished that during strong stimulation the inspiratory muscles relax, are inhibited, and still after cessation of the stimulation we observe an inspiratory after-effect as if the inspiratory muscles during stimulation had been excited instead of inhibited.

Conditions similar to this we have just demonstrated in strong stimulation of the trunk of the vagus are to be seen likewise in the influence of expansion of the lung on respiration. It is well known that Hering and Breuer * have shown that inflation of the lung interrupts inspiration. Gad and Wegele † have subsequently demonstrated by division of the spinal cord that the interruption of the inspiration indicates a relaxation, a genuine inhibition, of the inspiratory muscles. Furthermore, Henry Head ‡ has reported the following with reference to the after-effects of expansion of the lungs: Expansions of brief duration cause an inhibition of the inspiratory muscles; this inhibition has a short after-effect which Head terms "positive." Prolonged expansions, on the other hand, after cessation have a strong inspiratory or, as Head calls it, "negative" after-effect—that is to say, after cessation of the expansion the expiratory standstill changes into an inspiratory one. Head makes a similar statement with reference to the effects of pulmonary collapse, which, however, do not interest us in this place. Therefore a prolonged expansion of the lung during its continuance causes a genuine inhibition of respiration; but after cessation of the expansion an inspiratory after-effect follows in the same manner we have demonstrated for strong stimulation of the vagus. What is the meaning of this "negative" after-effect; how is it brought about? The following reflection seems to me apt to throw sufficient light upon the question:

We have seen that expansion of the lung, as well as irritation of the trunk of the vagus, causes relaxation of the inspiratory muscles, inhibition of inspiration. This inhibition is a genuine one—that is to say, the inspiratory impulses, while still in the center, are prevented from passing to the motor nerves. Hence the vagus contains fibers which cause an inhibition of inspiration by certain stimuli. On the other hand, it is equally certain that, at least in a number of individuals, medium strong and weak stimuli

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* Hering und Breuer, Sitzungsberichte der Wiener Academie, Bd. lvii.

† Wegele, Ueber die centrale Natur der reflectorischen Athemhemmung. Verhandlungen der physikalisch-medicin. Gesellschaft zu Würzburg, n. F., Bd. xvii.

‡ Henry Head, On the Regulation of Respiration, Journal of Physiology, vol. x.

can positively produce inspiratory effects. Let us for the present keep in view the latter individuals. For these, then, we are forced to assume that their vagi contain two kinds of fibers—those whose stimulation causes inspirations, and others whose stimulation inhibits inspiration. This latter kind of fibers may be compared with the inhibitory fibers of the vagus for the movements of the heart. Both suppress impulses to action. The inspiratory fibers may, furthermore, be compared with the nervi accelerantes of the heart. Both augment or strengthen impulses to action. Similar opposing factors, as in the heart, are known also in other functions—for instance, in the blood-vessels of the submaxillary glands. Here the chorda tympani acts as the inhibitory nerve, and the sympathetic is compared with the accelerans. For the various nerves which suppress motion we have a common name—"inhibitory nerves." I should ike to use in like manner a common term for the various nerves which increase motion, and call them "nerves of acion." The vagus, therefore, contains for inspiration nerves of action and inhibition.

Let us now consider the relations of both kinds of nerves in the mechanism of the heart, as studied by Schmiedeberg,[*] H. P. Bowditch,[†] and N. Baxt.[‡] When both vagus and accelerans are stimulated, the effect of the agus alone is observable during stimulation. Even when he vagus is stimulated with strong currents and the accelerans with weak ones, the effect of the latter nerve during stimulation is not in the least perceptible. The vagus, however, possesses only a short after-effect, while that of the ccelerans is very prolonged. If the simultaneous stimulaion of both nerves is simultaneously terminated, the after-ffect of the accelerans manifests itself in a manner as f the latter alone had been stimulated during the entire ime. It is concluded from this that the vagus is not able ither to destroy the impulses which are produced by the timulation of the accelerans or to suppress their further evelopment; only the transition of these impulses to the motor mechanism of the heart is prevented. The vagus aving no long after-effect, the impulses of the accelerans timulation which are further developed in the center make hemselves felt by their long after-effect. I shall only add uite briefly that, according to the investigations of M. v. Frey,[#] analogous relations obtain between the chorda tymani and the sympathetic. Only the condition is reversed in so far that here the nerve of action, the sympathetic, redominates; and, furthermore, the absolute predominance f one nerve over the other during stimulation is found olely when maximal stimulation for both nerves is emloyed. In submaximal stimulation the effect is rather a esultant of both modes of action.

If now we attempt to apply the above-described experinces to the nerves of action and inhibition for inspiration, we find that the results may be interpreted quite naturally in the sense of the relation of the cardiac nerves, with the xception that this applies only to maximal stimuli—in this respect, exactly as in the nerves of the submaxillary gland. The nerve fibers which inhibit inspiration have but a very brief after-effect, while that of the fibers of action for inspiration is prolonged. On maximal stimulation of the trunk of the vagus—that is to say, of both kinds of fibers simultaneously—the inhibitory fibers predominate; hence, during stimulation we observe only an expiratory effect. With cessation of the stimulation, however, we see a strong inspiratory after-effect, as if only the nerves of action had been excited during the stimulation. This phenomenon bears a striking resemblance to the after-effects of simultaneous stimulation of the vagus and accelerans, and obviously has the same meaning. The impulses which have been produced by simultaneous stimulation of the fibers of action for inspiration are prevented by the inhibitory fibers only in their transition to the muscles of inspiration, but they have not been destroyed; for this reason the prolonged after-effects of these inspiratory impulses may be manifested after cessation of the stimuli (and thus after cessation of the predominance of the inhibitory fibers, together with their brief after-effects).

I think the analogy with the mechanism of the heart is obvious, and the explanation given for the "negative" after-effect seems to me to be almost unassailable.

But we can also conclude, wherever we find after an expiratory arrest an inspiratory after-effect, that inspiratory fibers are present in the trunk and have been likewise stimulated in a latent manner. But, as we have demonstrated in all animals under strong stimulation, such an inspiratory after-effect following an expiratory inhibition, we may conclude that both kinds of nerves exist in the vagus of all animals.

The conception here explained also disposes of a distinction, attempted by Heidenhain,[*] between inhibition of the heart and many other genuine inhibitions. Heidenhain believes with others that in cardiac inhibition the latter does not destroy the opposite impulses, but only prevents their transition to the motor mechanism. In many other inhibitions, among which Heidenhain includes inhibition of respiration, the opposing impulses are destroyed. By the correct analysis of the inspiratory after-effect I believe the proof is furnished that respiratory inhibition bears the same relation to the opposing impulses as in the case of cardiac inhibition.

It is perhaps hardly necessary to set forth in detail that the same explanation which has been given above of the phenomena resulting from strong stimulation of the trunk of the vagus applies without any modification to Head's experience with expansion of the lung. The latter stimulates at the same time both the inspiratory and the inhibitory fibers. The effects of the latter are exclusively manifested during the stimulation, but at the end of the expansion the long after-effect of the inspiratory fibers becomes fully evident. The expression "negative after-effect" applied by Head to the above-mentioned after-effect, therefore, is not quite suitable, since the latter is a positive after-effect from the stimulation of the inspiratory fibers which runs a latent course.

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[*] Schmiedeberg, Arbeiten der physiologischen Anstalt zu Leipzig, 869.

[†] Bowditch, *idem*, 1873.

[‡] Baxt, *idem*, 1875.

[#] M. v. Frey, *idem*, 1876.

[*] Heidenhain, Untersuchungen über den Einfluss des Nv. Vagus auf die Herzthätigkeit, Pfluger's Archiv f. d. ges. Physiologie, Bd. xxvii.

The view here advanced that the vagus of respiration possesses two kinds of nerves bearing a similar relation to each other as that demonstrated in the case of the cardiac nerves, might assist us in completing the theory of self-regulation (*Selbststeuerung*) of respiration in a natural and satisfactory manner. It is well known that Hering and Breuer, who discovered the inhibitory influence of expansion of the lung on inspiration, made an additional statement to the effect that collapse of the lung produced an inspiration. They therefore advanced the theory that the rhythm of normal respiration was effected by a sort of self-regulation. Inspiration expands the lung, thereby causing an interruption of the inspiration—that is to say, an expiration; with this the lung collapses, and *this* again produces the inspiration, which causes another expiration, etc. Although the fundamental facts on which this theory is based have not been disputed, it has not been clear to anybody that expansion of the lung should be a specific stimulus for inhibition, and pulmonary collapse another one for inspiration. Altogether, the view has found few adherents that collapse of the lung forms an additional stimulus. Gad,* therefore, has accepted this reflex theory only for the *inhibition* of inspiration. For the production of inspiration, Gad seeks the cause in a center in which a constant inspiratory stimulus resides. Thus the inspiration is said to start from the center, and the inhibition of this inspiration is to be effected by reflex from the lungs. Hence the inspiratory nerve fibers which undoubtedly exist in the vagus find no application in Gad's theory, and this alone speaks sufficiently against this hypothesis.

According to the view above set forth, I believe I am able to formulate a theory of respiration which is free from both objectionable features. In the first place, I assume that both fibers—those producing and those inhibiting inspiration—equally participate in the production of the rhythm. But I do not assume that both kinds of fibers are excited by particular specific stimuli. I simply mean to introduce the long after-effect of the inspiratory fibers as a factor in the mechanism. We have above made it plausible enough that during strong stimulation of the trunk of the vagus, or during expansion of the lung, both kinds of fibers are equally excited, and that in this the effect of the inhibitory nerves predominates; but that after cessation of the stimulation the long after-effect of the inspiratory nerve is manifested, precisely as in the cardiac nerves. Thus I believe that normal respiration, too, is effected according to the principle just explained. Inspiration expands the lung, thereby stimulating both the inspiratory and the inspiration-inhibiting nerve fibers. But during stimulation and for a very short time after cessation of the expansion the inhibiting effects alone are manifested; thereby inspiration is interrupted, and an expiration, a collapse of the lungs, follows. But since, with the cessation of pulmonary expansion, the given stimulus disappears, and the after-effect of the inhibiting fibers is of but short duration, the latent inspiratory impulses prevail, owing to their long after-effect, and cause an inspiration. This again establishes an expansion of the lung and thereby an expiration, etc. The respiratory pause is probably due, as above indicated, to the slight after-effect of the inhibitory nerves, which seems to be somewhat lengthened with the degree, and within certain limits also with the duration of the expansion. The degree of expansion which is able to act as a stimulus, and especially produce an inhibition of respiration, may vary in different animals. But this pertains to the minor details which I shall not enter upon more fully in this place. I shall add only the following explanatory remark. It might appear strange that a comparatively slight expansion, such as occurs in normal inspiration, should suffice to act as a stimulus for both kinds of nerves, seeing that we obtain such an effect from the nerve trunk only by maximal stimuli. In reply, I may state that the relation of the surface of the lung to the trunk of the vagus, with reference to the respiratory reflex, is about the same as in the well-known relation of the surface of the skin to the nerve trunks with reference to general reflexes. In this respect we know, from Marshall Hall, Volkmann, and others, that, in order to produce regular general reflexes, much stronger stimuli are required for stimulation of the nerve trunk than for stimulation of the surface of the skin. And indeed it is no unreasonable assumption to look upon the surface of the lung as a peripheral organ for the respiratory reflexes.

179 EAST ONE HUNDRED AND NINTH STREET.

THE TREATMENT OF CROUP.*

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FOR the purposes of the practicing physician, croup may be regarded as a form of acute laryngeal stenosis tending to produce death by suffocation. It excludes those cases in which the disturbance is due to œdema simply, to tumors intralaryngeal or extralaryngeal, or to cases of chronic progressive stenosis due to carcinoma, tuberculosis, or syphilis. It may be due to (1) a simple catarrhal laryngitis; (2) it may originate in a croupous bronchitis, and invade the larynx by extension upward; (3) it may begin as a diphtheritic laryngitis, or occur in connection with diphtheria of the nose, tonsils, or pharynx. Whether all cases of croup are contagious or not will not enter into the domain of this paper, although it is my practice to isolate these cases from the beginning and treat them as though contagious.

Is there a prophylactic or preventive treatment of croup? In children who have frequent attacks of diphtheria, Caillé has recommended systematic dental supervision, with regular daily cleansing of the teeth and mouth. These same rules may be applied in families in which croup has shown itself. It is well, likewise, to cure the too frequently observed cases of chronic nasal catarrh in young children, which, in the poorer classes especially, are allowed to run their course unchecked. A daily nasal syringing with a mild saline solution is sufficient. Lastly, perform only necessary operations on the tongue, tonsils, and mouth during the winter months, for every such wound may be the starting-point of a diphtheritic process which may terminate in croup.

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* Gad, Die Regulirung der normalen Athmung, DuBois-Reymond's Archiv f. Physiologie, 1880.

* Read before the Society of the Alumni of Bellevue Hospital, December 4, 1889.

The treatment of croup proper divides itself into the three classes referred to in the beginning. The first class includes the cases of simple catarrhal laryngitis. These cases begin suddenly, usually in the night, with a dry, metallic, barking cough, hoarseness, fever ranging between 101° and 105° F., and rapid heart action, and are usually associated with a catarrh of the bronchial tubes. In some instances the dyspnœa may be very alarming. These cases may be distinguished by the following signs: (1) absence in most cases of marked dyspnœa or retraction of chest walls; (2) absence of diphtheria in the nose or throat; (3) presence of a general bronchitis, for they are often only an upward extension of a bronchial inflammation; (4) presence usually of marked fever. These cases do well under a mild emetic—such as syrup of ipecac, wine of antimony, or subsulphate of mercury. After vomiting, I order steam, bichloride of mercury, chlorate of potassium, tincture of chloride of iron, and warm applications to the throat and chest. If the fever is high, I give antipyretics. When the dyspnœa is unusually intense, a hot general mustard bath or operative interference may be called for. As the laryngeal trouble abates, the bronchitis usually has to be attended to for some time longer.

The second class of cases includes those in which the croupous process begins in the bronchial tubes and extends upward. This condition is known as fibrinous bronchitis, or ascending croup. According to Jacobi, it is a very rare disease, but I certainly have met quite a number of cases, and believe them to be not at all infrequent. At the beginning these cases simulate acute catarrhal bronchitis, but, day by day, the child becomes sicker, the larynx becomes involved, and the picture of croup, with its horrible attempts to force air through narrow air-tubes, presents. Violent attacks of coughing may be followed by the expectoration of membrane, which at once clears the diagnosis. In this variety of croup the prognosis is very gloomy. Jacobi saved a patient by putting him into the bath-room and keeping him in an atmosphere opaque with steam. Where this is not practicable, steam from slaking lime or croup kettles is indicated. An occasional vomit can do no harm and may loosen membrane. Flaxseed to the neck and chest, bichloride of mercury, and free stimulation are indicated. When the stenosis becomes threatening, it may be necessary to operate, although these cases offer very poor chances of ultimate recovery. In intubating, use small tubes, so that they may be readily coughed out, allowing detached casts to follow. But tracheotomy seems to offer better chances in these cases. One patient of mine got well after intubation; another died before the coughed-out tube could be reintroduced; several others died in terrible agonies while wearing tubes, which, as subsequently determined, were not occluded. In a case of this sort Caillé recently saved a girl of twelve years by tracheotomy, and Huber lost one at the eleventh hour, after the O'Dwyer tube had been expelled and reinserted quite a number of times.

Cases of pure diphtheritic croup may begin and remain as a local affection of the larynx, or may occur with patches in the nose or on the pharynx and tonsils. When the case begins with membrane in the larynx, the diagnosis from simple catarrhal croup is often difficult or impossible. If the fever is high, the probability is more strongly in favor of catarrhal croup and the prognosis is better. Where the fever is low, or where there is diphtheria in the throat, family, or house, or where the child is subject to repeated attacks of diphtheria, the case is probably diphtheritic. Whether diphtheritic or not, I believe that delay is inexcusable. With the first evidence of croupy cough I at once put these children on large doses of bichloride of mercury, as I shall hereafter describe, and I have repeatedly witnessed the cough entirely disappear in twenty-four hours. Of course, where the case progresses from bad to worse, with increasing dyspnœa and cyanosis, operative interference by intubation of the larynx is required, and, where no complications exist or develop, is followed by the most favorable results.

The diphtheritic laryngitis may follow nasal diphtheria. Where this is present, disinfection of the nasal canals is urgently indicated. Even where membrane is not visible the nose ought to be disinfected in laryngeal diphtheria, for the original focus may be deeply located in the posterior nares, and only syringing will reach it. As soon as the laryngeal symptoms develop, at once resort to the use of bichloride of mercury, or, in extreme cases, intubate the larynx. The glands, however, at the angle of the jaw are apt to be involved by direct infection from the nose, and with this the entire circulation is apt to become poisoned. These patients, therefore, tend to succumb to general sepsis, and require the utmost stimulation.

In cases where the diphtheritic laryngitis supervenes on a tonsillar or pharyngeal diphtheria, it is my practice to at once resort to the bichloride of mercury. In fact, there is no valid reason for not disinfecting the nose and giving bichloride of mercury before the larynx is invaded. We all know how mild tonsillar diphtheria usually is, but occasionally the process extends to the pharynx and posterior nares, the submaxillary glands enlarge, and general sepsis supervenes; or the process jumps to the larynx, and croup develops. Therefore it is well not to regard these cases too lightly. Occasionally in these children an emetic is indicated if the condition of the heart is good. These cases, however, tend to go on from bad to worse, and operative interference may become imperative. These are generally favorable cases for intubation, if the diphtheritic process has not extended too far downward. Local brushing must be stopped, for fear of bringing out the tube too soon, although the atomizer, steam, nasal injections, warm applications, stimulants, potash-and-iron mixture, and bichloride of mercury should be kept up. In case membrane has formed in the trachea, there is a risk of pushing it in front of the tube, thus expediting a fatal termination, or a fresh diphtheritic process may be lighted up at the lower end of the tube, or death may follow futile attempts to introduce the tube, or a broncho-pneumonia may make its appearance after the operation—the so-called "Schluckpneumonie."

After this rapid review of the various phases of croup, with their respective indications for treatment, I will now describe more in detail the various measures to which I have before alluded.

Among the general measures in the treatment of croup, steam ranks high. If the patient can be placed in a small room and the air kept opaque with steam, this would be ideal. The softening effects of the warm vapor on the air-passages must be of great effect in loosening membranes, and, in cases of fibrinous bronchitis with ascending croup, would be very valuable. Unfortunately, this is not possible in the majority of croup cases, especially in poorer patients; and here the sick-chamber can be partitioned into a small space by means of sheets hung vertically. Into this small compartment a long tin tube connected with the water-kettle on the stove can be arranged so that the steam keeps the atmosphere moist. The addition of lime to the water may render the steam more efficacious. Another plan is to put lime into the wash-boiler at the bedside, and at intervals to pour water on it. The most convenient appliance for this purpose is the croup-kettle, which in certain forms can be bought at a small expense. The apparatus is kept on a chair at a little distance from the child's cot and allowed to blow over the child's head. The chief objection to this method is that the steam is apt to be cold, and condenses on the child's face without reaching the deeper air-passages. Whether disinfectants carried by means of steam to the larynx are of much additional use I can not say, but the heat and moisture are certainly desirable.

Besides this internal method I believe in the use of heat and moisture externally by means of moist flaxseed poultices. The great objection to their use seems to be the danger of chilling the neck when the poultice gets cold. By frequently renewing and by surrounding the poultice with flannel and oil-silk, this objection is readily overcome.

The sick-room should be kept warm—at about 70° F. By warm I do not mean close and stuffy, for proper ventilation is more needed in croup than in any other disease. The blood already suffers from lack of oxygenation, and one of the chief indications of danger is cyanosis. Indeed, there are cases in which the direct employment of oxygen is strenuously required. Besides these general measures, disinfection, as usually employed in all contagious diseases, is demanded.

The use of nasal injections I strongly recommend from the outset. I am accustomed to employ the ordinary glass syringe tipped with soft rubber. In some cases a medicine-dropper may be employed, or simple snuffing from the palm if there is any apprehension of middle-ear inflammation. I have very seldom met with a case of inflammation of the middle ear which I could trace to such syringing, although I have used this method freely for years. The liquid employed is a solution of common salt in warm water, less than one half per cent., although there is no objection to lime-water, boric acid, or other mildly antiseptic preparations. When I resort to the hand-spray through the nose or mouth I use a weak solution of corrosive sublimate (1 to 5,000 or 10,000); but I object to the use of carbolic acid in young children, on account of its ready absorption into the system. Finally, I repeat the nasal injections once in two hours or oftener if the nose is markedly occluded, and, in case of necessity, I force a way through each meatus with a cotton-protected silver probe, using the gentlest pressure.

Medication is a very important factor in croup. The one drug on which I place most faith is bichloride of mercury. Whether this acts by combating the diphtheritic germ in the general circulation, or whether by a local action on the larynx after absorption, I do not care to discuss. Certain it is, however, that for several years I have used this drug in large doses in cases of croup. Thus I do not hesitate to give from an eighth of a grain to a grain of bichloride of mercury to a child of two years in the twenty-four hours for days in succession. Originally I gave larger doses, but, having met with several cases with bloody and mucous discharges from the bowels, I prefer to give somewhat smaller quantities, keeping an eye on the frequency and character of the stools. Stomatitis as a result of large doses of mercury I have never met with in children. I have histories of a dozen cases cured by this drug, and I have probably cured twice as many more of which I have kept no records. A few histories may not be out of place.

Case I.—Child, twenty months old. First seen March 7, 1889. Sick since day before. Diagnosis, croup. Throat red, but no membrane visible. Chest clear. Mild fever. Dry, harassing cough, with distressing laryngeal dyspnœa. Grave prognosis, with possibility of intubation in several hours. Ordered bichloride of mercury in divided doses every hour, so that one grain is taken in twenty-four hours. Next day (March 8th) child very much better. Temperature higher (103° F.). Dyspnœa has disappeared. No diarrhœa. Same treatment continued, with addition of antifebrine. March 9th, child well.

Case II.—Nursing infant, fourteen months old. Had been sick a number of days with croupy cough before seen on October 2, 1889. Found considerable dyspnœa and epigastric sinking during inspiration, although ipecac had been used freely. Throat red and covered with mucus, but no membrane visible. Lungs clear. No temperature. Nose occluded. Diagnosis, croup with grave prognosis. Ordered bichloride of mercury, half a grain in the twenty-four hours. Child improved by next day, but treatment was continued in diminished quantities for several days longer.

Case III.—Nursing infant, six months old. First seen March 7, 1889. Sick for twenty-four hours with croupy cough and breathing. Temperature slightly elevated. Case looks very alarming. Abdomen sinks to the spine with each inspiration. Throat and chest clear. Bad prognosis. Gave one third of a grain of bichloride of mercury a day for forty-eight hours continuously, then reduced the quantity, although relief was evident in the first twelve hours. The baby then developed a broncho-pneumonia, which kept it sick for several weeks longer. Six months later the child had a second attack of croup and dyspnœa; became so bad in four hours that child had to be intubated. After doing well for two days, it coughed out the tube during the night, and before I could reach the child several hours later it was dead.

These cases can not be regarded as diphtheritic, although, from the low fever in all, perhaps they were. My experience with corrosive sublimate has led me to conclude that it will have its best effect if given early in croup. If the case is treated from the onset, within the first six or twelve hours, it may not go on to form membrane; so that, in this sense, I believe the treatment abortive. Where diphtheritic patches already exist in the throat the majority of cases of croup are apt to go on from bad to worse. But even then I believe in pushing the mercurial treatment.

With the bichloride of mercury I usually prescribe chlorate of potassium and tincture of the chloride of iron. As they all three contain chlorine, there is no chemical incompatibility, and, by mixing them, it saves dosing the child oftener than is necessary. The use of potash and iron is of long standing in cases of diphtheria, and the vast majority of patients with mild tonsillar diphtheria rapidly get well under this treatment alone. In croup, especially where there are patches in the throat, these drugs are also useful. By making a weak solution of the three remedies in glycerin and water, they may be given every half-hour or hour, night and day. Whether the iron and potash touch the diseased parts, and so cure the disease by local action; whether the same result is obtained in the larynx after absorption; whether the iron acts specifically on the diphtheritic germ; or whether the potassium salt prevents renal complications—are questions which have been repeatedly discussed. The fact remains, however, that they are at present used by the vast majority of medical men, and, I believe, justly.

Fever, when present, is due to catarrhal rather than diphtheritic croup. It may be due to complications, especially pulmonary. When high it may be controlled by antifebrine, antipyrine, phenacetin, or cold sponging.

Heart failure is one of the chief dangers of croup, especially diphtheritic. It may occur long after the croup has ceased to cause alarm. I very distinctly remember a boy of four who had a mild croup after tonsillar diphtheria for two weeks, and, while playing on the floor, was suddenly attacked with heart failure and died. I start early with alcoholic stimulants. Brandy in teaspoonful doses, repeated every half-hour or hour, is not too much for a baby a year old if the case is severe. The other heart-stimulants are also indicated: sparteine, strophanthus, digitalis, caffeine, camphor, ammonia, etc.

What is the position of emetics in croup? The older treatment consisted almost exclusively in causing these children to vomit at frequent intervals. Among the laity it is a very prevalent idea to vomit these children as much as possible. In fact, I have known a mother to use up an ounce of syrup of ipecac in trying to vomit a puny infant that had a slight croupy cough. The baby died. An intelligent lady once told me that after the doctors had given up her child, which was suffering from a severe attack of croup, she saved its life by causing it to expectorate a large cast after the use of kerosene oil. The great objection to the use of emetics is the depressing influence they have on the system. For this reason, in a weakening disease like croup, it is best to avoid them as much as possible. Still, in the beginning of croup or in the face of urgent dyspnœa, provided the condition of the heart is good, I frequently employ an emetic. When the disease, however, is far advanced, I have known as powerful an emetic as apomorphine given hypodermically to fail to cause relief. I prefer the milder emetics when I use them, such as syrup of ipecac, wine of antimony, or subsulphate of mercury. In employing them, rather order them in small doses repeated every fifteen minutes till vomiting ensues, and limit the number of doses, so that, in case the stomach is too weak for reaction, no poisonous quantity is taken.

This brings me to the consideration of the operative treatment of croup. The indications for operation in many cases are plain, in others not so clear. A case of croup, diphtheritic in origin, with progressive and increasing cyanosis, the breathing every hour becoming more and more labored, deep supraclavicular and episternal retraction, absence of respiratory murmur in lower lobes of lungs, can have, in the vast majority of cases, in spite of all medicinal treatment, but one termination—and that is death. In rare instances a superhuman effort at coughing will dislodge membrane and give a new lease of life or favorably terminate the case; but this can not be counted on. In these cases operative interference is indicated, and often no time is to be lost. In New York, within the past few years, as you know, the treatment by intubation of the larynx has been in vogue. I believe the operation to have a settled place in the treatment of croup, although the method is still open to improvement. The results of the investigations of Dillon Brown in 2,368 cases give a prognosis of 27·3 per cent. recoveries. I would here say that the operation is never done unless the case presents urgent dyspnœa and beginning or advanced cyanosis. The table on the next page represents a small series of nineteen cases which have occurred in my own practice.

Besides these nineteen cases—in all of which the patients probably would have died if not operated upon—I have assisted at as many more in the practice of colleagues; so that I trust I may not be regarded as presumptuous in entering more into the details of this procedure.

My method of operating is as follows: Having carefully threaded the tube and tried if the instruments work properly, I stand the child (rather than seat it) on the chair just between the father's thighs, and wrap its body in a shawl or sheet. Although some operators say that they can dispense with the mouth-gag, I have seen unnecessary repetitions of attempts at introduction and diphtheritic finger in the operator follow such a plan. I prefer the Denhard gag, and, having separated the jaws, I feel for the epiglottis, hook it forward, and slip the tube beneath my index finger into the larynx. I now remove the gag and wait. If the child does not respond by coughing, I give it pure brandy, which will pass in part into the larynx and excite coughing. If the child still remains blue and irresponsive, I pull on the thread and withdraw the tube, for there is membrane which has been pushed ahead of it. When the child coughs properly and the breathing is relieved, the thread may be cut and the child left alone. It is my practice of late to use a tube a size smaller than directed by O'Dwyer, so

No.	Age.	Operation.	Physician.	Result.	REMARKS.
1	$2\frac{1}{2}$	Mch., '87.	Huber.	Recovery.	Croup following measles; operated third day; terrible dyspnœa; later, broncho-pneumonia: tube removed and reinserted on fifth day; coughed out next day.
2	$1\frac{7}{12}$	April, '87.	Huber.	Death.	Operated after twenty-four hours; intense dyspnœa; broncho-pneumonia, with high temperature and rapid breathing. Died on third day.
3	$1\frac{7}{12}$	April, '87.	Alone.	Death.	Operated after twenty-four hours; violent pneumonia already present; tube pushed membrane ahead, and was not left in. Child died several hours later.
4	$1\frac{7}{12}$	June, '87.	Alone.	Death.	Membrane pushed ahead of tube, as in last case, with same result.
5	$1\frac{8}{12}$	May, '88.	Joyce.	Recovery.	Diphtheria for a week previously in tonsils; pneumonia; tube coughed out, and reinserted next day; removed tube four days later.
6	4	May, '88.	Joyce.	Death.	Bad case of measles and nasal diphtheria; tube pushed membrane and was not left.
7	$1\frac{6}{12}$	Nov., '88.	Alone.	Death.	Carried tube eight days; died of pneumonia.
8	1	Nov., '88.	Muldberg and Cronson.	Death.	Complicating broncho-pneumonia from beginning; carried tube four days.
9	3	Nov., '88.	Freeman.	Recovery.	Bad case; patient moribund when operated on; removed tube on fifth day.
10	3	Mch., '89.	Denhard.	Death.	Tonsillar diphtheria and nephritis; operated on third day. Died two days later.
11	4	Mch., '89.	Richardson and Freeman.	Death.	Required repeated intubation during three days, and laryngeal stenosis was completely relieved. Several days later child died of pneumonia.
12	$1\frac{5}{12}$	Apr., '89.	Joyce and Muldberg.	Recovery.	Dr. Huber intubated for ascending croup March 23d, and again April 5th; then tube coughed out; I reinserted it April 6th, and worn almost continuously to April 29th.
13	4	Apr., '89.	Marcuse.	Recovery.	Tonsillar diphtheria; removed tube on third day.
14	2	May, '89.	Gordon.	Recovery.	Removed tube fifth day, but necessary to reinsert same day; coughed out two days later.
15	$2\frac{1}{2}$	Aug., '89.	Alone.	Death.	Descending croup. Died after two days, although unoccluded tube in larynx.
16	1	Aug., '89.	Muldberg.	Death.	Intubated four hours after first croupy symptoms developed; did well till third day, when tube coughed up, and before it could be reinserted child died.
17	3	Oct., '89.	Keefe and Horn.	Recovery.	Tonsillar diphtheria; nephritis; removed tube on fifth day.
18	4	Oct., '89.	Joyce.	Recovery.	Tonsillar diphtheria; nephritis (80 per cent. albumin); coughed tube up sixth day.
19	$1\frac{8}{12}$	Nov., '89.	Ladinsky.	Death.	Ascending croup; died in fourteen hours.

Total number of cases	19
Recoveries	8, or 42 per cent.
Deaths	11, or 58 per cent.

The recoveries were:
4 cases under 3 years.
4 cases over three years.

that the tube can be more readily coughed out in case of occlusion.

The after-treatment often requires great judgment. After the operation the child usually goes to sleep. When it awakens, a little cracked ice may be given. The medicinal treatment may be continued. Bichloride of mercury, iron, potash, stimulants, and symptomatic medication are indicated. Feeding is the most important problem. Semisolids are swallowed most readily. Babies at the breast usually have no difficulty in swallowing. Hence nursing-bottles have been suggested for older children. An exclusive diet of ice-cream has saved several of my patients. In rare cases, feeding with the head inclined downward, nasal feeding, or feeding *per rectum* may be required. In all cases continue the use of steam and hot flaxseed poultices. In one case, in which I intubated, the attending physician insisted on making local applications to the diphtheritic tonsils. I would advise against this practice, as the irritation may cause the tube to be prematurely coughed out.

The removal of the tube, if the case has done well, can be accomplished on the sixth day. In several cases in which I have removed it before this time I have had to reinsert it. Special cases, with flapping of loose membrane at the lower end of the tube, may necessitate its earlier removal. If a case is not doing well it does no harm to remove the tube and introduce one of a different size or the same tube. In all cases, when removing the tube, have a fresh one ready, for the act of extraction may so irritate the parts that spasm of the larynx may suddenly come on and kill the patient. I once nearly lost a patient in the presence of two colleagues by a neglect of this precaution. In all cases I prefer the child to cough out the tube of itself about the fifth or sixth day, and inverting the child occasionally assists in obtaining this result. The use of a smaller-sized tube is of advantage from this standpoint as well as its advantage in being readily dislodged during choking spells caused by membrane or secretions below the tube. The only inconvenience is that it may necessitate re-intubation at inopportune and inconvenient hours. But, unless the physician is willing to make many sacrifices to his own convenience, he had better leave intubation to others, for the management of these cases is often more tedious and troublesome than was at first imagined.

Having decided to remove the tube, place the child in the same standing position, with an assistant behind and a gag in the mouth. It is maintained that by a process of gentle squeezing of the larynx the tube can be pushed into the mouth. However this may be, there are cases in which the removal of the tube will be far more difficult than its introduction. In a case recently occurring in the practice of a colleague, the tube was so imbedded in swollen and œdematous tissues above the upper end that it required repeated and protracted efforts before its removal could be accomplished. Ordinarily it is necessary to pull the epiglottis forward with the index finger, introduce the closed blades of the extractor into the aperture of the tube, and separate the blades, and the tube readily comes out. Now remove the gag and wait. If there is no return of dyspnœa, the child may be left. Occasionally, after the lapse of several hours, it is necessary to return and reinsert the tube. In such cases always use the smallest size possible. This will usually stay in place a few hours or days longer, and then be coughed out spontaneously. A third insertion is rarely required.

Without describing the treatment of the complications or sequelæ of croup—for time will not permit—I have one word yet to say in reference to tracheotomy in croup. In the majority of cases of this disease in which formerly it was exclusively resorted to, I believe intubation of the larynx to give at least as good, if not better, results without the special surgical skill required by the cutting operation and the inconveniences of special nursing and after-treatment. I have, however, met with certain cases in which tracheotomy would have been done had the parents consented. These are: 1. Cases in which, owing to spasm or œdema of the glottis, the tube can not be introduced by O'Dwyer's method. 2. Cases in which the tube enters the larynx, but pushes membrane ahead of it. 3. Cases of ascending croup, in which the lower and larger opening of tracheotomy allows the membranes and secretions a better avenue of escape.

93 Madison Street, *November, 1889.*

THE CLASSIFICATION AND NOMENCLATURE OF THE DIARRHŒAL DISEASES OF INFANCY FROM A STUDY OF THE LESIONS.[*]

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There is no more difficult task in medicine than the classification of diseases. Increasing knowledge of the ætiological factors in disease and in the anatomical changes produced by it is continually requiring us to group anew our cases.

A certain uniformity of nomenclature and classification is desirable among physicians in order that we may compare our observations as to symptomatology and treatment. One needs only to glance at a dozen different text-books upon pædiatrics, or to go over in the vital statistics of our Board of Health the returns made in cases of death from diarrhœal diseases, to see what widely varying notions are held by physicians in regard to this class of diseases among young children.

One sets down all deaths from infantile diarrhœa as due to "cholera infantum." Another sees in every similar case "entero-colitis." To a third a large number appear as "dysentery." It was with the hope of unraveling some of this skein of mystery and uncertainty that the writer began over two years ago a series of observations upon the pathological anatomy of the diarrhœal diseases in young children, some of the results of which are here presented.

Microscopical examinations have been made in this connection upon the intestines of one hundred and nine cases. Seventy of this number were from cases dying of diarrhœal disease or complications. The remaining thirty-nine were taken at random among many autopsies, cases of pneumonia predominating. These have been used principally as central cases, although in several of them interesting lesions of the milder types have been very often seen.

The cases of intestinal disease have been for the most part taken consecutively from one institution—the New York Infant Asylum, where nearly every fatal case comes to autopsy. This fact adds some value to the list of cases from a statistical point of view.

The scheme of classification which is herewith offered is made up chiefly from a study of the clinical and pathological features of these seventy cases, but modified by a comparison of upward of fifteen hundred non-fatal cases of diarrhœa among children. A classification based solely upon the pathological findings becomes complicated and needlessly confusing to the clinician. I have tried to solve the difficulty by placing in the left-hand column the best grouping of the cases clinically which I have been able to make, and to show the relation of these to the pathological conditions, which are arranged in the right-hand column.

It is to be borne in mind that this is not put forth as a final classification, but only as a provisional one, as there are many points upon which our knowledge is as yet too incomplete to allow us to speak positively. Many of these obscure points relate to ætiology, and these experimental bacteriology alone can decide.

Clinical.	*Pathological.*
I. Simple diarrhœa	No lesions.
II. Acute mycotic diarrhœa.....	Acute desquamative catarrh.
1. Acute dyspepsia.	
2. Cholera infantum.	
III. Acute entero-colitis	1. Catarrhal. 2. Croupous. 3. Follicular ulceration (ulceration of lymph nodules).
IV. Chronic dyspeptic diarrhœa	Hyperplasia of lymph nodules, or no lesions.
V. Chronic entero-colitis	1. Chronic catarrhal inflammation. 2. Follicular ulceration.

I. *Simple Diarrhœa.*—Under this head I have included the cases of diarrhœa not accompanied by fever and which are not dyspeptic—*i. e.*, there is no vomiting and the symptoms of acute intestinal indigestion, flatulence, etc., are wanting. There is functional derangement, chiefly exaggerated peristalsis, and partly digested food may appear in the stools merely from the fact that the intestinal contents are hurried along before digestive absorption is completed.

Simple diarrhœa has no anatomical changes. In two or three cases I have had an opportunity to examine very soon after death the intestines in acute diseases, usually pneumonia, in which a diarrhœal complication had existed and the epithelium was essentially normal.

II. *Acute Mycotic Diarrhœa*, or the class which are probably of bacterial origin. I say *probably*, for it has not, I think, yet been demonstrated that any known form of bacteria stands in a direct causative relation to any one of the varieties of diarrhœa. However, such a mass of evidence has now accumulated that there remains very little room for doubt that these cases depend upon bacteria as their principal exciting cause.

I will not stop here to go over this evidence. I have done so at length in Vol. III of Keating's Cyclopædia.[*] But it seems to me to be sufficient to warrant our introduction of the term "mycotic" into the nomenclature of diarrhœal diseases. This class embraces the greater number of those commonly designated as "summer diarrhœa."

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[*] Read before the Section in Pædiatrics of the New York Academy of Medicine, December 14, 1889.

[*] The reader is referred to this article also for a fuller description of pathological changes, with drawings of the microscopical appearances and photographs of the gross lesions.

These cases are divisible into two classes: (1) Acute dyspeptic diarrhœa and (2) cholera infantum.

(1) *Acute dyspeptic diarrhœa* is characterized by an abrupt invasion, usually with vomiting, a considerable elevation of temperature (100° to 104° F.), and by thin or watery stools containing undigested food, generally passed with much flatus. The prostration is sometimes quite marked. The vomiting and fever continue only for from twenty-four to forty-eight hours, and with proper management a child with a fairly good constitution and surroundings is usually convalescent in two or three days, and quite well in a week. If surroundings and constitution are bad, the diarrhœal symptoms continue and the case becomes one of chronic dyspeptic diarrhœa or one of entero-colitis.

(2) *Cholera Infantum.*—Contrasting strongly with the great frequency of the cases just mentioned, those of cholera infantum are rare. I think this term should be limited, as has been done by some of our American writers, particularly Meigs and Pepper and J. Lewis Smith, to cases of true choleraic diarrhœa. These cases, as I have met with them, have been characterized by the following symptoms: Profuse vomiting and purging, the stools finally becoming serous in character, very great prostration, highly developed nervous symptoms—delirium, coma or convulsions—and hyperpyrexia, the temperature rising in a few hours to 104° or 105° F., and often touching before death 107° or 108°. With such symptoms death has occurred in my cases nearly always within thirty-six hours from the beginning of severe symptoms. These cases are not common, and have formed only about one or two per cent. of the cases of diarrhœa seen in summer. They seem to me to differ from the cases of acute dyspeptic diarrhœa in something more than severity.

Having thus sketched the clinical features of these cases, we now turn to their lesions.

Of the seventy autopsies made upon children dying from intestinal diseases which were studied under the microscope, twenty-two belonged to the group classed as acute mycotic diarrhœa. These were divided as follows: Four were true cholera infantum and eighteen were acute dyspeptic diarrhœa without choleraic symptoms. Thirteen of these eighteen cases were in children suffering previously from athrepsia or marasmus.

I was unable by the microscope to separate the cholera-infantum cases from the rest of the group, which does not prove identity, but only that the differences are clinical, and probably also ætiological. The only essential and constant change in these cases was a desquamation of the superficial epithelium. This was found even in the cases in which the autopsies were made as early as three hours after death. The study of the bacteria in the tissues has thus far been rather barren of results. Bacteria are found upon the surface of the mucous membrane in all cases. They are found in the superficial layers of the mucosa in a small number. It is rare to find many in the deeper layers when autopsies are made within the first twelve hours; when found in this situation at a much later period than this they are of no significance, as they are quite likely from post-mortem changes. I think this class of cases should be distinguished from the cases of gastro-enteritis or gastro-entero-colitis, in which all the usual evidences of an exudative inflammation are found.

The process has seemed to me, as I have watched these cases by the bedside and studied them under the microscope, as one of acute decomposition or fermentation in the alimentary tract, often involving nearly the whole of it. Since the only anatomical changes are in the epithelium, I have classified them pathologically as cases of *acute desquamative catarrh.* The symptoms—high temperature, prostration, convulsions, etc.—seem to me pretty clearly of toxic origin.

It has been already stated that of the eighteen cases of acute dyspeptic diarrhœa, thirteen were in cases previously suffering from athrepsia. This is a striking fact. It shows that children of the class described succumb very easily to an acute intestinal attack of no great severity, and, further, that, except in this class of children, death rarely occurs from diarrhœa until the case has gone on to the development of exudative inflammatory lesions unless the case be one of genuine cholera infantum.

III. *Acute Entero-colitis.* — Under this head I have grouped all the acute cases in which there was not only loss of epithelium, but also an inflammatory exudation of cells or cells and fibrin. These cases are quite distinct clinically from the foregoing. They are characterized by a much longer course, a continuance of severe symptoms, especially of fever.

The exact relation of acute dyspeptic diarrhœa to entero-colitis is not quite clear. Clinically we meet with many cases characterized by severe gastro-intestinal symptoms, high temperature, and nervous symptoms, which are convalescent in two or three days. We see others like these in the beginning in which there is improvement in all the severe general symptoms; the temperature falls nearly to normal and the vomiting subsides, but the intestinal symptoms continue, the stools become less frequent and less watery and usually less offensive, but there is more mucus, and occasionally they are streaked with blood.

Again, we see cases in which there are two or three such initial attacks before continuous diarrhœa is finally established, these being separated by a number of days or even weeks, in which, as a rule, however, the stools never are quite normal.

There is another class of cases not nearly so numerous as those above mentioned in which we have initial symptoms which are indistinguishable from those described, but in which the severe general symptoms and high temperature continue without any remission for from four to fourteen days until death occurs, or the general symptoms subside after a variable time and there is final recovery, but only after a very protracted convalescence.

It seems likely, then, that the majority of cases of acute entero-colitis are preceded by an acute dyspeptic diarrhœa; that in some the entero-colitis is not established until the second or third attack; that in a smaller number there has probably existed from the beginning an intense intestinal inflammation.

Acute dyspeptic diarrhœa has often a high fever at the outset, but it is of short duration, usually subsiding as the bowels are freely evacuated, rarely continuing beyond the second day. It is a rule, to which the exceptions are very few, that where we find continuous fever with diarrhœal diseases, lesions are present; and their extent and severity are usually in direct proportion to the intensity and duration of the febrile symptoms. The converse of this statement is also true, that where we have a continuance of diarrhœal symptoms and no fever after the first day or two we have no lesions of importance to deal with.

The nature of the lesions met with in acute entero-colitis and their relative frequency were as follows:

1. Acute catarrhal inflammation, sixteen cases.
2. Acute croupous inflammation, nine cases.
3. Follicular ulceration (or ulceration of the lymph nodules), twenty cases.

1. *Acute Catarrhal Inflammation.*—Two varieties of this form are met with: First, the superficial form, milder in degree and affecting only the mucosa. It is characterized by loss of superficial epithelium and, in many places, of entire tubular glands, and with a moderate cell infiltration into the mucosa. This variety is usually widespread, and involves often nearly the whole intestinal tract and even the stomach. The second variety is much more severe, and there is dense infiltration of mucosa and submucosa also with cells, small hæmorrhages, destruction of the tubular glands, and it resembles the croupous forms in all but the presence of fibrin. The inflammatory process is so intense that superficial erosions or catarrhal ulcers are sometimes formed. The severe variety affects with great constancy the lower two or three feet of the ileum and the colon. The upper small intestine and the stomach are usually nearly or quite normal.

The first or superficial form is that which most likely exists in most of the cases which recover; the second is so severe a process that it is probably almost always fatal.

2. *Acute Croupous Inflammation.*—This is the most intense inflammatory process seen in the intestines. It affects with great uniformity the whole colon, though not to the same degree, and the lower two or three feet of the ileum. It usually stops quite abruptly, so that within two or three inches we may have a transition from an intense inflammation to nearly normal intestine. The most marked changes are nearly always seen near the ileo-cæcal valve, in the ileum or the cæcum, or in the sigmoid flexure.

The amount of fibrin on the surface is usually small, and often none can be seen in areas large enough to be stripped off in flakes or shreds. It more often appears as fine granules of a gray or yellowish-green color; in others the intestine is red and granular, and nothing suggests a pseudomembrane. There is no deep sloughing and rarely any ulcers, contrasting in a striking manner with the croupous process as observed in adults. The intestine always appears greatly thickened, and the small intestine may stand open like a trachea.

Microscopically there is, as in the very severe variety of catarrhal inflammation, extensive destruction of the tubular glands of Lieberkühn, dense cell infiltration into the mucosa, submucosa, and sometimes even the muscular coats, and, in addition, a fibrinous layer upon the surface and fibrin infiltrated to a greater or less degree through the mucosa and the deeper coats, and may even form a layer upon the peritoneal surface. This lesion is so severe that recovery from it is rare, and so intense that the cases usually die in the acute stage—within from ten to fourteen days of the onset.

3. *Follicular Ulceration, or Ulceration of the Lymph Nodules.*—It is common to find in cases of acute catarrhal inflammation more or less swelling of the lymph nodules. In a considerable number of cases the swelling and breaking down of these nodules with the formation of ulcers is the chief lesion. Follicular ulcers never exist without other evidence of inflammation, usually of the catarrhal variety, and the extent of these changes depends principally upon the duration of the pathological process.

These cases usually run a slower course than the catarrhal and croupous varieties. They are rarely seen in cases lasting less than a week, and the average duration is between two and three weeks.

Frequency.—These ulcers were found in twenty out of the seventy cases. Of those lasting over two weeks, they formed rather more than half the cases.

Situation.—Ulcers were found in the small intestine alone in but two cases; in the small intestine and colon in three cases; in fifteen cases they were only in the colon. When in the small intestine, they were only in the lower ileum. Occasionally in such cases ulceration was seen in one or two of the nodules of a Peyer's patch. The ulcers in the colon were most common, and deepest in the lower half of the gut.

It is of interest to note the frequency of bloody stools in those cases where ulceration existed. Blood was abundant in two cases; traces were present in four cases; in the remaining fourteen there was no blood in the stools at any time. It is evident, then, that this symptom of ulceration, upon which so much stress is laid in most of our text-books, is of no practical value in the diagnosis of this condition, being absent in about two thirds of the cases.

The small ulcers usually involve the mucous coat only; the deeper ones extend some distance into the submucosa, occasionally to the muscular layer. This layer I have seen involved in but a single case. Perforation I have never seen. The usual size of the small, round ulcers is about a twelfth of an inch in diameter. By a coalescence of several of these, larger ulcers are formed, which vary from a quarter of an inch to an inch in diameter, rarely larger.

By far the greatest number of the cases in which these ulcers form prove fatal in the acute stage. Occasionally a case drags on for two or three months. I have only seen one which lasted a longer time. In this solitary instance cicatrized ulcers were found a year subsequent to the acute attack, and, although the intestinal symptoms ceased after nearly four months, the patient never regained his health, dying finally of general tuberculosis.

Is it possible to separate clinically these three varieties of entero-colitis—the acute croupous, the catarrhal, and follicular ulceration?

The croupous variety—relatively the least frequent—is usually characterized by the highest temperature (102° to 105° F.) and the most severe constitutional symptoms, and generally lasts from ten to fourteen days. Its course is steady and severe. Shreds of membrane in the stools, which would settle the diagnosis, are very infrequently seen in infancy.

The very severe cases of the catarrhal variety resemble in all particulars the croupous cases. In the milder forms we have a lower temperature; more frequently there is implication of the stomach. The febrile symptoms gradually subsiding after one or two weeks, we have frequently prolonged convalescence, but the majority undoubtedly recover.

In the cases of follicular ulceration we have most commonly pretty much the same early history, except as to the gastric symptoms. They may die at the end of the first or early in the second week, with the colon filled with minute ulcers; or more commonly they drag on a slow irregular course for from one to six weeks longer, wasting steadily, with but little fever, till death occurs.

A careful study of the histories of the forty-five cases here classed as acute entero-colitis convinces me that we are not able at present, in by far the largest number of cases, to distinguish between these three varieties clinically. I think we can not now do better than to group them together as cases of acute entero-colitis. In a small proportion of the cases we may be able to judge pretty accurately as to the exact nature of the lesions.

Dysentery.—It will seen that this term has no place in our scheme of classification. It has seemed to me that it would be advantageous if it were dropped altogether from the nomenclature of the diseases we are considering.

The commonly received opinion—that in "diarrhœa" we have to do with lesions in the small intestine, while in "dysentery" we have lesions in the large intestine—is completely overthrown by the post-mortem findings. The truth is, that in by far the largest number of cases of diarrhœa in which lesions exist, the most important ones are in the colon, while in the cases of so-called "dysentery," lesions are almost invariably found in the lower ileum as well as in the colon.

By other writers, severe general symptoms, high temperature, bloody and mucous stools, tenesmus, infection, and the lesions of ulceration or pseudo-membrane are regarded as distinguishing "dysentery." Severe general symptoms and high temperature are common to many forms of intestinal disease. Ulceration, and even pseudo-membranous inflammation, are found in cases which were clinically only diarrhœa. Blood is more frequently absent from than present in the stools in cases of ulceration. It may be present in many pathological processes. Mucus is present in almost every case of diarrhœa at some stage in the process. Furthermore, the evidence is quite convincing that several varieties of diarrhœa are infectious. We have left, then, only tenesmus as distinguishing dysentery from diarrhœa, and this symptom, whether associated or not with stools of blood and mucus, depends not upon the nature of the pathological process, but upon its seat; tenesmus, with painful expulsive efforts, occurring with inflammation of the rectum and lower colon whenever this reaches a certain grade of intensity.

It has seemed to me, then, better to abandon altogether the use of the term "dysentery" as signifying a special form of disease, since this term in the minds of so many fosters ancient errors. With a clear understanding of just what is meant there can be no objection to the terms "dysenteric symptoms" or "dysenteric stools" to characterize certain forms of colitis in which the lesion, for a time at least, is principally in the lower part of the large intestine.

If I were to make the simplest classification possible of acute diarrhœal diseases in children I would divide them into two classes—first, the cases without lesions, and secondly, the cases with lesions—and if the practicing physician were able sharply to separate these two classes, he would have the key to prognosis and to treatment, it being remembered that in the former class nearly the whole gastro-intestinal tract is more or less involved and that the most important morbid condition is probably acute fermentation or decomposition; in the latter class the seat of lesions is, with remarkable uniformity, the last two or three feet of the ileum and the whole colon. Finally, that the most important differential symptom between the two great classes is the existence of a continuous fever.

Other Lesions Present in Cases dying of Acute Diarrhœal Diseases.—Brain: Notwithstanding the frequency of cerebral symptoms, it is very exceptional to find any adequate explanation for them in the post-mortem appearances. Overlapping of the bones of the skull is occasionally seen in the rapidly fatal cases in young infants. A slight increase in the cerebro-spinal fluid is not uncommon, but of no special significance. Thrombosis of the sinuses I have not met with. Congestion of the brain was not rare in cases dying with convulsions and high temperature, but not apart from these. In but a single case have I seen very marked anæmia of the brain which seemed to be the explanation of cerebral symptoms during life. These symptoms were so marked in this case that two excellent physicians who watched the case from the outset had made a diagnosis of undoubted meningitis. The brain in this case was almost bloodless.

Lungs: Pulmonary tuberculosis was met with in several cases in patients dying of intestinal disease which was not tubercular.

By far the most frequent pulmonary lesion was bronchopneumonia. It was present in one sixth of all the fatal cases, and in one half of those lasting over ten days. In six cases it was the immediate cause. Some French writers have attempted to prove that this pneumonia is in some way dependent upon the absorption of infectious materials from the intestine. I find little ground for such an opinion. The pneumonia is precisely like that seen in other diseases of infancy running a prolonged asthenic course like these diarrhœal cases. It affects almost invariably the posterior borders of both lungs, and the upper lobes rather less than the lower. It is always associated with more or less of hypostatic congestion, and it may be a slow subacute variety which is rather the most common, or there may be added to this larger or smaller areas of hepatization as the result of an acute process. With the latter there is nearly always found some pleurisy.

In a single case I have seen a pulmonary abscess the size of a lemon resulting from a simple pneumonic process.

The liver is usually pale, but essentially normal in other respects. The spleen is very rarely enlarged.

Peritonitis was not met with except as a localized plastic inflammation in a single case of croupous entero-colitis.

Kidneys: Ever since the writings of Kjellborg, in 1870, it has been the custom of writers upon this subject to speak of the great frequency of nephritis in these cases. My own observations have not confirmed his results. In but a single instance have I met with well-marked nephritis. Cloudy swelling of the epithelium of the tubules is very common, and is seen in almost all cases where there had been high temperature. Taking the cases as a class, however, the renal changes were very much what are met with in pneumonia or any other febrile disease, but, in my experience, are no more marked.

Multiple intussusceptions were met with in about ten per cent. of the cases, but are of no significance.

IV. *Chronic Diarrhœa.*—Chronic diarrhœa may last for weeks and even for months, usually with exacerbations and remissions, and if the patient then dies of some acute disease and the intestines are examined within a few hours (less than six), we may find absolutely nothing which we can assert to be pathological in the appearances. Such cases are not often preceded by an acute attack, but begin very gradually, and perhaps we can characterize them by no term better than that of chronic dyspeptic diarrhœa.

In another class of cases with a clinical history somewhat similar—except that they have more frequently suffered from an antecedent acute diarrhœa, sometimes from several such attacks—we find very marked hyperplasia of the lymph nodules or solitary follicles of the intestine. In the majority of the cases this change is seen in the colon only; occasionally it is those of the small intestine only which are affected. In the latter, Peyer's patches are also the seat of similar changes. I do not think that in any case the hyperplasia has affected the lymph nodules of both the large and the small intestine to any considerable degree.

If the stools have for weeks or months habitually contained much mucus, we are quite sure of finding this condition in the colon.

This change seems to me to be one of little importance in itself, but probably of considerable moment as a predisposing condition to follicular ulceration when an acute attack supervenes. When once established, these lymphoid swellings are slow in disappearing.

The chronic inflammatory processes in the intestine, so far as I have had the opportunity to study them, have followed the acute.

An important clinical distinction is to be made just here between the cases of slow convalescence from acute attacks and those which are in reality cases of chronic inflammation. The first are very common. Those of the second class are quite rare, and yet, at a certain stage in their progress, it is almost impossible to distinguish between the two.

Chronic entero-colitis may follow the acute catarrhal form or that of follicular ulceration, the ulcers remaining unhealed. The cases of croupous inflammation are so severe as to cause death almost invariably in the acute stage.

If the antecedent attack be of the acute catarrhal variety, we have, after the febrile symptoms have lasted two or three weeks, a subsidence of these, but a continuance of the intestinal symptoms, with exacerbations and remissions for from two to four months, till death occurs from exhaustion with wasting, or from complications, usually pneumonia. Here the gross changes are so slight that the lesion may be overlooked entirely without a microscopical examination.

The latter shows infiltration of the mucosa with new cells, extensive destruction of the tubular glands, and in the small intestine of the villi also, and, if the process has lasted long enough, new connective tissue has formed and we may get true intestinal atrophy. This lesion I found in but a single case.

In the cases in which the chronic diarrhœa depends upon the presence of follicular ulcers we have a continuance of the intestinal symptoms, with occasional exacerbations, and progressive wasting until the infants are often literal skeletons. They rarely last more than three months, and the immediate cause of death in nearly all cases is broncho-pneumonia.

At the autopsy, follicular ulcers in various stages of repair are found throughout the colon.

MISCARRIAGE OF TRIPLETS.

By GEORGE M. SPECK, M. D.,
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After reading the report of the meeting of the New York Academy of Medicine in regard to the management of abortion, I have concluded to report a case occurring in my practice. While it may not be interesting to the older practitioner, it will surely prove instructive to the younger ones, and cause them, as it did me, to accept with doubt the teachings of some of the authors on obstetrics in regard to leaving a retained afterbirth in the cavity of the uterus after miscarriage occurring at or prior to the third month of pregnancy.

Mrs. S., aged twenty-eight years, married thirteen years, mother of four children, first came under my care February 1, 1889, when she miscarried at the fifth month. The afterbirth was expelled promptly. There was very little hæmorrhage. Her health was poor during the summer. I was again called to see her on September 8th, when I found her threatened with another miscarriage. She said she had been pregnant about eight weeks, and remarked that her abdomen had enlarged much faster than in any former pregnancy. I found her suffering severe pain in the back and loins; there was slight hæmorrhage.

Fluid extract of ergot was prescribed in drachm doses every four hours, morphine to relieve pain, and rest in the recumbent position. On September 11th a fœtus three inches and a half long was expelled. The membranes were retained, considerable hæmorrhage following. The patient felt fairly well until the afternoon of the 13th, when she experienced considerable pain and passed another fœtus partially decomposed. The membranes, as in the first one, were retained, hæmorrhage free, but stopped in about two hours without interference. There were slight pain and suffering until Sunday morning, September 15th, when she was seized with severe pains and violent hæmorrhage, and expelled the third fœtus in a putrid condition, the hæmorrhage continuing, the patient having lost consciousness from loss of blood.

On examination, I found the uterus firmly contracted on the placenta, which was in a very putrid condition and as thick as the afterbirth at full term. With the fingers I removed the afterbirth piecemeal (having no confidence in the curette), the hæmorrhage stopping as soon as the womb was empty. With the aid of stimulants she soon regained consciousness and complained of no pain. Recovery was rapid and complete under tonic treatment. Syringing of the vagina with tepid water was kept up for two weeks, and never once was there any fever or symptoms of pyæmia, which naturally could be expected in such cases.

Now, had I, after the expulsion of the first fœtus, made a thorough examination of the uterus and emptied it of its contents as soon as possible, instead of leaving Nature to do it, as taught by some of our authors, the patient's life would not have been put in nearly so much danger, and I should not have been guilty of what I term almost a fatal error.

The young practitioner may be able to get some information here which if obtained by experience he may have cause to regret all his life.

December 9, 1889.

THE UNTOWARD EFFECTS OF COCAINE.

By JOHN A. WESSINGER, M. D.,

HOWELL, MICH.

Cocaine, although a comparatively recent addition to our materia medica and indispensable as a therapeutic agent, yet, valuable as the remedy is, it should not be forgotten that cocaine is a poison; that while we may administer it with comparative impunity, yet occasionally patients will present themselves upon whom cocaine will assert its untoward effects in a most violent and shocking manner. The following case is placed on record to illustrate the toxic action of the agent in certain cases:

G. R., aged twenty-four, single, has always been healthy, is well nourished and well developed, weight one hundred and fifty pounds, height five feet five inches. On December 10, 1889, patient consulted me in regard to the removal of a small fibro-cystic tumor in the left side of the neck immediately below the ramus of the jaw. Examination of the patient previous to operation found pulse 80, regular, strong. Respiration and temperature normal. Heart and lungs sound. Preliminary to the removal of the growth I injected ten minims of a fifteen-per-cent. solution of cocaine hydrochloride. Immediately following this the patient was seized with distressing dyspnœa, pallor of the face, pupils widely dilated, spasm of the flexor muscles of the arms and legs; pulse 140, very small, wiry. Respirations 40 a minute. Patient perspiring profusely, but at no time unconscious. I gave a hypodermic injection of morphine and atropine, $\frac{1}{8}$ and $\frac{1}{200}$, and in twenty minutes from time of first seizure patient had sufficiently recovered to enable me to remove the growth.

This experience with cocaine is not unique, as several similar instances are recorded in medical literature. I well remember the experience of Dr. George A. Hendricks, of Ann Arbor, Mich., related by him before a recent meeting of the Michigan State Medical Society. One of his patients, immediately after the injection and without any premonitory symptoms, was seized with violent spasm amounting to complete opisthotonos. And it may be of interest to say that, after various modes of procedure, the doctor did not succeed in relieving his patient until he finally resorted to violent stimulation (by a heavy blow on the patient's abdomen) of the great splanchnic system of nerves.

It would, no doubt, be of interest to know whether cocaine manifests its poisonous action more frequently when used in certain regions of the body than in others. We know that other anæsthetics (such as chloroform and nitrous oxide) manifest their lethal effect most frequently during operations in regions supplied by the fifth pair of nerves. Is this also true of cocaine? The recorded experience upon this question of gentlemen in ophthalmic practice would certainly be of interest. I find, on searching the literature upon this subject, that in 1888 there occurred four cases of fatal cocaine poisoning—one after injecting cocaine into the eyelid, two during dental operations, and one after injection *per urethram*.

Correspondence.

LETTER FROM PARIS.

The Close of 1889.—The Changes at the Hôtel Dieu.—Professor Richet and Professor Verneuil.—The Potability of the Water Supply of Paris.—Professor Farabeuf's Lectures.—The Candidates for the Vacancy at the Pitié.

Paris, *December 26, 1889.*

The year 1889 closes in a calm manner, greatly in contrast with the agitation of its first months. Who then would have expected the month of December to pass so quietly? At that epoch political discussions occupied even the students, who held caucuses and published manifestoes that were placarded in their yellow, green, and red colors on every available wall. Only a faint and distant memory of this tumultuous period remains. The general elections took place in vacation time, when every thought was engrossed by the Exposition. There was no tumult, hardly any shouting. Those that were most excited last year have returned quietly to the laboratories or to the hospitals, with no further thought of their former melancholy prognostications. It is true that there has been a slight reminder of last year in the toast offered to the republican deputies. A political discussion was then held—it is true, with bated breath—to which the public press paid no attention, and that left the general public indifferent.

The most important event accompanying the reopening of the medical school has been the change in the professor of the surgical clinic of the Hôtel Dieu. This hospital has always exercised a great power over the Parisian medical world. It is there that the student often takes his first steps in hospital life. It is near the school, being the eastern limit of the Latin quarter, the buildings are conveniently arranged, the visits to the wards are regularly made, and numerous patients with manifold diseases can be seen there. Clinics on many subjects, held by official as well as voluntary professors, are freely and gratuitously opened to the medical students. It has frequently happened that the voluntary professor has been more assiduously followed than the official one, who confined his instructions to such days as were prescribed by the faculty law. For more than twenty years Dupuytren held the chair, and his memory is still green. The last incumbent, Professor Richet, made but infrequent and short visits to his wards, being habitually replaced by an assistant called an *agrégé*. This was by no means an evil. The *agrégés* brought to bear upon their work a zeal and ardor that neither years nor success have served to abate. It is at the Hôtel Dieu that they first carry arms, that they strike the note that is henceforth to characterize them as the clinicians, the masters of the future. The general public is well wishing, but forces have to be measured with the internes; the candidates for hospital preferment, the clinical assistants, those who to-day are pupils are to-morrow official equals. The least forgetfulness, the least elocutionary defect, will not be allowed to pass unnoticed.

'Tis easy to see that, although instruction given in such an atmosphere would necessarily be both solid and polished, the continual changing of tenant was abnormal and could not last indefinitely. Professor Richet understood this, and, although vigorous and in full possession of all his faculties, he voluntarily resigned a position that he could rightfully have held in his quality of member of the Institute until he was seventy-five years of age. He is replaced by Professor Verneuil. It is impossible to imagine a greater contrast to Professor Richet, who was methodical and clear, and most desirous of imbuing his students with a certain number of correct and practical ideas which he wished understood and remembered. His treatise on surgical anatomy, which, despite its forty years of existence, is still consulted, is the best exponent of his manner.

Professor Verneuil's characteristics and good qualities are of quite a different order. One rarely attends one of his clinics without carrying away many new ideas. He defined his own ideals in his inaugural address: "Composure and prudence should reign in the practice of the medical art, while boldness should characterize its doctrines." A faithful and attentive audience has always grouped itself around him during his fifteen years' tenure of the surgical chair at the Pitié. A considerable number of theses and monographs have been written at his suggestion. His lessons, which will henceforth be given at the Hôtel Dieu, are perhaps too learned for the young student, who still ignores the teachings of the past, the truth of to-day; who has not yet a glimpse of general pathology; but they are admirably adapted to the more advanced scholar, for doctors who desire to keep abreast with the more advanced thought of the day as applied to surgical practice.

There has been much discussion about potable waters by the members of the Board of Health, of the Hospital Medical Society, and of the Society of Public and Professional Health. The water that is actually distributed in Paris comes, first, from distant rivers that have been imprisoned for a longer or shorter time; second, from the Seine, the Ourcq, the Marne. The first are of good quality but of insufficient quantity; the second have to be substituted, and, unfortunately, they are absolutely worthless. What, then, will inevitably happen? From the day on which the change took place little epidemics of typhoid fever broke out in every direction. This was the case in 1889, as also in 1887. The warm season of 1888 was fortunately a wet one, so that the water of the first class sufficed.

As Chantemesse and Widal found the typhous bacillus in the drinking water of the Menilmontant district at the time of an epidemic reigning there, it is proved that the most important factor in the diffusion of typhoid fever in Paris is the water that one drinks here. The best method, therefore, of preventing epidemics and of considerably diminishing the number of sporadic cases is to so increase the quantity of pure river water as to be able to furnish an abundant supply to all the inhabitants of every part of the city throughout the entire year.

The city has desired to purchase quite an important river, the Avre, which rises about 160 kilometres to the west of Paris. The money is ready, the working plans are completed, but, as the inhabitants of the country through which the river passes object to having their water taken from them, it will be necessary to pass a law in order to overcome their resistance.

The lectures of Professor Farabeuf have been among those most frequented this year. His good nature, his simplicity, and his thoughtfulness for his students have made him thoroughly liked by them. This year the subject of his opening address pertained neither to anatomy nor to medicine, but still was one that appealed not only to his hearers, but also to the entire school—that, namely, of the remarkable slowness with which the architectural renovations of the school buildings have been conducted. It certainly would incline one to suppose that the architect conducted the siege of Troy or of Azot, that lasted for twenty-nine years. His dilatoriness was the cause of the destruction by fire of the beautiful paintings of Matont, representing Ambroise Paré rejecting the actual cautery, and two visits to the hospital in the eighteenth century.

The resignation of Professor Richet has left a vacant professorship at the Pitié. Great excitement is felt among the surgeons who are likely to be possible candidates. Legally the Minister of Public Instruction makes the appointment, but in reality whoever the faculty of the medical school place first in the list which they hand to the Minister will inevitably receive the position. Intrigues of all kinds naturally arise. At present the chances seem equally divided between Tillaux and Le Dentu. The first named is approaching the age at which professors in other countries think of retiring. He is nearly sixty years old, and should have belonged to the faculty for the last ten years. At the time when its amphitheatres were but little frequented, crowds flocked to listen to his lectures on topographical anatomy, delivered at the hospital anatomical amphitheatre, situated in a remote part of the city. His hospital service at Hôtel Dieu is considered one of the best. The number of young surgeons in the city who have not studied with him is easily counted. Notwithstanding all these well-founded claims to the professorship, Lefort, Guyon, Duplay, and Lannelongue have been successively preferred to him. These elections have not been ratified by public opinion, but that carries but little weight in such nominations. Will Tillaux be elected this time? His opponent, Le Dentu, who has just been unanimously elected member of the Academy of Medicine, is also a skillful surgeon, a correct and eloquent lecturer, and a noted writer, and has the advantage over Tillaux in being sixteen years younger. It would be difficult at present to predict what will be the result of the contest.

Treatment of Stammering.—"It is said that stammerers rarely if ever show any impediment to speech when speaking in whispers. On this fact a new method of treatment has been advocated by Dr. Coen, which is as follows: In the first ten days speaking is prohibited. This will allow rest to the voice, and constitutes the preliminary state of treatment. During the next ten days speaking is permissible in the whispering voice, and in the course of the next fifteen days the ordinary conversational tone may be gradually employed."—*Druggists' Circular and Chemical Gazette.*

The Academie royale de medecine de Belgique.—Dr. H. A. Hare, of the University of Pennsylvania, has been awarded a prize of 4,000 francs for an essay on epilepsy.

THE
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TREPHINING FOR GENERAL PARALYSIS OF THE INSANE.

Paralytic dementia has long been known as a hopeless and invariably fatal disease. When seen in the early stages, the prognosis is, as a rule, death in from two to five years, although in exceptional cases these extremes may be exceeded. In the earliest stages there are characteristic bulbar symptoms, together with psychic exaltation and a beginning dissolution of the higher mental processes. The pathological anatomy of the affection is shown chiefly in the cortex, and particularly in its upper layers. There is, probably, an irritative lesion which gives rise to gradual cortical atrophy, with disappearance of the tangential fibers. Subsequently there are pressure symptoms from the presence of fluid. Remedies of any sort, even in cases presumed to have a syphilitic foundation, have proved thus far unavailing. It would seem, therefore, that any measure which offered even a remote possibility of altering the morbid process for the better was justifiable, at least from an experimental standpoint. Actuated by such considerations and by the progress of modern cerebral surgery, Dr. T. Claye Shaw, lecturer on psychological medicine at St. Bartholomew's Hospital, London, had the simple operation of trephining performed in a case presenting early symptoms of general paresis. Dr. Ferrier was called in consultation, and agreed that the case was one rapidly approaching dementia of the paralytic form, and coincided in the recommendation of an operative procedure.

The history of the patient is briefly as follows: W. H., admitted November 14, 1888, a packer, was in an excited, grandiose mental state. His delusions were described in the medical certificate as expansive in nature, and he was evidently in an elevated and happy frame of mind altogether out of proportion to the gravity of his condition. The speech was affected, the reflexes were exaggerated, the gait was very unsteady, and the urine was retained. It seemed probable that he was suffering from a bulbar lesion which was extending to the superficial parts of the brain. From time to time he had convulsive attacks and short periods of loss of sensation, chiefly in the left extremities, and his powers of deglutition and talking became more and more impaired, and he seemed to be rapidly becoming demented. On July 28th he was trephined over the right central gyri, about two inches from the median line, the operation being performed, under strictly antiseptic precautions, by Mr. Harrison Cripps and Mr. Bruce Clarke. Two holes were made with the trephine and the intermediate bone was removed, leaving an opening about an inch and a half by three quarters of an inch. The dura mater was partly cut away to allow the escape of considerable fluid. Healing was complete on the tenth day, so that the patient could sit up out of bed, and the temperature at no time exceeded 99·5°. There have been no cerebral symptoms since the operation except a slight tingling in the fingers of the left hand on August 9th and 15th.

The result is improvement in every respect, even as regards the bulbar symptoms. He swallows more easily, and his utterance is more distinct. He has had no further epileptoid attacks and is free from headache. But it is his mental condition which has been most markedly benefited. Dr. Clifford Albutt, who has seen the patient since, pronounces him sane, and Dr. Shaw, in his account of the experiment in the British Medical Journal of November 16, 1889, announces his intention of discharging the patient as no longer insane.

The author explains the object of the procedure as an attempt to modify the metabolic processes going on in the cortex, and also to relieve tension, the latter very frequently giving rise in the early periods to characteristic headaches. Trephining would seem to be a more certain way of relieving pressure than depletion by purgatives or medicines intended for the lowering of vascular tension. He speaks of the value of nerve-stretching and cord-stretching in certain disorders, and perceives an analogy in the way of brain-stretching in his operation, which permits that organ to expand. We think it is as yet too early to regard this one case as very successful. Remissions of many months and even years are frequent in general paralysis. In this case but four months have elapsed since the surgical interference, and, furthermore, the remission may be a mere coincidence, or it may be an actual relief, temporary in its nature, of the more serious symptoms. We shall await with interest the outcome of this case. If so insidious and thus far irremediable a disease can be cured, or even if a remission of indefinite duration can be brought about by trephining the skull, a new day will dawn upon the darkness of asylum life. At the same time it will be wisest to hasten slowly, to observe for a longer period the results in this one patient, to await the further experiments of this character which the instigator purposes to undertake, and not blindly to begin a wholesale mutilation of patients with paralytic dementia in our asylums before surgical treatment has proved to be of certain value as a therapeutic measure.

ECTOPOTOMY.

This term, ambiguous at best, is used by Stratz to include all laparotomies undertaken for the relief of ectopic pregnancy. The greatest danger after operations for extra-uterine pregnancy, in the opinion of this author, consists in possible infection from the diseased tube, the danger from hæmorrhage being next in importance. This would necessitate in all operative procedures the careful ligation of the tube and all vessels which might contribute to its nutrition, while rigorous attention to antisepsis would not of necessity demand that the entire gestation sac be extirpated. His own experience and that of others have taught him that if these conditions are observed the intraperitoneal treatment of the pedicle is preferable to the long-continued and troublesome details which the extraperitoneal method requires. He reports three cases in which the intraperitoneal plan was adopted. In the first case three quarters of the sac was removed. The remaining quarter was firmly fixed in Douglas's *cul-de-sac.* Its cavity was washed out with a ten-per-cent. solution of chloride of zinc, and a double ligature was passed around its wall. Recovery was uninterrupted. In the second case the same antiseptic solution was used, the portion of sac retained being the lower portion of the thickened left broad ligament. In this case there was also a prompt recovery. In the third case the pregnancy had reached the fifth month, and the sac was adherent to the rectum and pelvic wall. It was separated from these structures, and washed out as in the other cases. Great retraction followed, and after removing as much as possible the pedicle was stitched with catgut. Death resulted on the third day, ileus and septic peritonitis having intervened. The autopsy showed general peritonitis, which was most severe in the area which had been the seat of operation. In the left parametrium was an old abscess which had been overlooked when the operation was performed. There was no hæmorrhage, and the stump was in good condition. We would suggest that the term "ectopotomy" be abandoned, as etymologically inexpressive of this author's meaning. No single word, so far as we know, has been proposed which will correctly designate the operation for removal of an ectopic gestation sac (the term laparokelyphoectomia is both clumsy and indefinite), and we hope our German brethren and all others will spare us the further infliction of any uncouth combination for the attainment of that end. Brevity is indeed "the soul of wit," but there are degrees of wit, and we should have charity for those whose auditory nerve is sensitive. There are two other points in this paper which touch upon important questions still unsettled; one is the method of treating ectopic gestation in general, and the other the method of treating the pedicle if laparotomy is performed. With all the advancement which electrical therapeutics has made in pelvic disease we have heard little of late in regard to its application to ectopic gestation.

Amid the multitude of reports of cases in which cure has resulted from timely laparotomy there have been few, if any, in which electricity has been used as the remedial agent. What conclusion is to be drawn from this silence? As to the treatment of the pedicle, the author is following in the lead of Schroeder, who was as earnest in his advocacy of the intraperitoneal method as of anything which he advocated in the closing years of his useful life, but with reference more particularly to the pedicles of fibroid tumors. In general, we see no reason why the remnant of a gestation sac, if not too large and thick, may not be as safely dropped within the peritonæum as the pedicle of an ovarian tumor, always supposing that it is aseptic when dropped. But if the remnant is large and the area of possible infection extensive, we would much prefer the more conservative extraperitoneal method.

MINOR PARAGRAPHS.

THE CHARITIES OF KINGS COUNTY.

The county charities of Kings County and the medical men who are connected with them officially have apparently fallen upon an evil time with the opening of the new year. A new board of commissioners has come into the control of charity affairs, and its members have shown an unmistakable tendency toward a restoration of old methods of mismanagement which it took years of fighting and legislation to overturn. About the first act was to vote to take away from Dr. Arnold, of the Flatbush institutions, the power to appoint his own nurses and other employees; this step, to those who know its dire meaning, is the first on the road that leads direct to extravagance, cruelty, and debauchery, known in irony as "the old charities' system." The very first act of the new directors has excited suspicion and alarm. Their second was like unto it. They voted to reduce the salary of the medical superintendent at St. Johnland by the amount of $600, and gave that sum to a needy politician, as an added salary. This last act was virtually a breach of faith, since Dr. Harrison was induced, not many months ago, by the former commissioners, to remain at St. Johnland, when an offer was made to him of a superintendency elsewhere. Both these acts tend to belittle the medical and charitable operations of a great county, and the outlook of the physicians employed under such an administration is gloomy in the extreme. These gentlemen have been giving their talents and energy to the building up of an admirable institution, in a true spirit of charity toward the sick, the poor, and the demented, and they must view with poignant feeling the prospect that there is about to be a wreck, before their very eyes, of that which is but barely launched.

DESTRUCTION OF LIFE IN INDIA BY SNAKES.

The large loss of life and destruction of cattle by venomous snakes in India has been a matter for the careful consideration of the Indian Government. The reports show that there has been no decrease in such loss for some years past:

YEAR.	1883.	1884.	1885.	1886.	1887.
Number of people killed...........	20,067	19,629	20,142	22,134	19,740
Number of cattle killed............	1,644	1,728	1,483	2,514	2,716
Number of snakes killed...........	412,782	380,981	420,044	417,596	562,221
Amount of reward paid—rupees ...	22,353	28,551	25,213	25,361	37,912

Sir Joseph Fayrer, who is an authority in natural history as well as medical science, in a paper in the Nineteenth Century for December, considers that snake poison kills by extinguishing in some way the source of nervous energy, causing particularly respiratory paralysis. No physiological antidote is yet known, and treatment must be directed to preventing the poison entering the system. Hence ligatures above the wound; and excision, burning, or potassium permanganate for the wound itself.

There should be a system of rewards from 8 to 2 annas, according to the species, for each snake killed; and the regulations should be uniform and enforced throughout the whole of India.

SURGICAL PATHOLOGY OF THE NERVE-ENDS IN THE MAMMA.

In order to investigate the cause of the different forms of pain in diseases and cicatrices of the mammary gland, Professor Pacinotti has instituted ten observations. According to the Deutsche Medizinal-Zeitung, his conclusions are that, in consequence of the process of inflammation or the extension of a new growth in the mamma, the Paccinian corpuscles may be found infiltrated between little plates originating from their cell elements. There appears to be a very close connection between these plates and the lymphatic space about and within the nerve to which the Paccinian corpuscle belongs. This infiltration was present in every very painful case of carcinoma, but not in cases of other tumors which, from their form, the character of their elements, or encapsulation, could not spread. In these latter cases the clinical symptom of pain also was wanting. The relation of the pain to the alteration of the corpuscles is such that he considers its appearance in connection with a tumor an indubitable token of the extension of the neoplasm in the lymphatic space about the nerve and deduces that the tumor should be removed when possible before pain has become a marked symptom. A diagnosis can not be based on the lancinating, throbbing, or burning character of the pain. The area about the base of the nipple should be avoided as far as possible during operations, because the Paccinian corpuscles are grouped thickly here and wounds of all kinds are apt to leave painful cicatrices.

TRAUMATIC LESION OF ONE SIDE OF THE SPINAL CORD.

In the Deutsche Medizinal-Zeitung for November 18, 1889, is an account of an interesting case, reported by Albrecht, of injury to one side of the spinal cord in the region of the fifth intercostal nerve. On the left side there was paralysis of the entire lower extremity with maintenance of muscle sense and feeling, and on the right side there was complete anæsthesia of the lower extremity. The paralysis of the left side soon disappeared, leaving only a slight amount in the foot, but the anæsthesia of the right side remained unchanged. The left posterior lateral columns, together with the gray substance of the left posterior horn and the outer part of the left posterior column, were the portions injured. No regeneration of the nerve-fibers involved had taken place. The restoration of motility to the left lower extremity may be explained by supposing the paralysis to have been caused by a simple compression of the lateral columns by effused blood, or to have occurred as a functional compensation. There was nothing strange in this recovery from the paralysis, because the injured portion of the lateral column was very slight.

MYOPIA AND THE ORBITAL ARCH.

In an article in the Fortschritte der Medicin, Stilling makes these observations: In Suabia the people are of the broad-faced type with low orbits, and myopia was found in eighty-one per cent. of the students in Tübingen. In Hanover the longer-faced type with high orbits prevails, and in the high schools in Hanover less than thirty-three per cent. of myopia was found.

NON-TUBERCULAR AND NON-CARDIAC HÆMOPTYSIS IN ELDERLY PERSONS.

Sir Andrew Clark, in the Lancet, describes a form of hæmoptysis which occurs in certain elderly persons the subject of gout in some form. This hæmorrhage is rarely fatal, but it may cause death. In two fatal cases the author found "emphysematous patches" in the lungs, together with disease of the arteries. He considers the pulmonary lesion similar in kind to that of the articulations. Treatment by large doses of astringents aggravates the hæmoptysis. The cases do best, says the author, if treated "by diet and quiet," together with antilithic remedies.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 14, 1890:

DISEASES	Week ending Jan. 7.		Week ending Jan. 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	1	0	1	0
Typhoid fever	17	5	14	9
Scarlet fever	59	12	75	8
Cerebro-spinal meningitis	2	2	2	2
Measles	39	8	60	3
Diphtheria	98	23	112	37
Varicella	1	0	4	0

The Society of the Alumni of Charity Hospital.—At the January meeting, held on the evening of the 14th inst., Dr. Ramon Guitéras read a paper entitled Some Features of the Prevailing Epidemic of Influenza. In the discussion many interesting points were brought out. Dr. Newton, of Montclair, N. J., reported the interesting fact that in several cases of "grip" which had come to his knowledge complicating pneumonia had undoubtedly started in the deeper parts of the lung and spread to the periphery—a fact which he thought tended to show that the complication was due to direct infection from the bronchi. Dr. Daniel P. Pease read an interesting paper on The Differential Diagnosis of Variola. This paper also elicited a very general discussion.

The New York Surgical Society meets at 12 West Thirty-first Street, at 8.30 P. M., Wednesday, January 22d. The paper of the evening, by Dr. John A. Wyeth, will contain the following cases: Suture of the Great Sciatic, External and Internal Popliteal Nerves; Trephining for Old Depressed Fracture of Skull with Epilepsy; Exploration of Spinal Canal, Abscess of the Cord; Death from Rectal Anæsthesia; Perityphlitic Abscess opening into the Bladder; Large Cystic Tumor of the Breast; Infectious Mammitis, with Destruction of Both Breasts; Exsection of the Knee for Traumatic Dislocation; Complete Removal with Perfect Reproduction of the Clavicle.

St. Peter's Hospital at Brooklyn.—The addition to St. Peter's Hospital at Brooklyn, now nearly finished, will accommodate two hundred and forty patients. It has a frontage of two hundred and twenty feet, or one block's length at that part of the city. The new hospital has been two years in building and represents an expenditure of $200,000. The most modern appliances for heating, ventilating, sewering, and protection against fire have been wrought into the plans, and as to its exterior it has been spoken of by a competent judge as "one of the most imposing and attractive hospital structures in the country." There will be accommodations for fifty pay-patients. Consumptives to the number of fifty have been provided for.

Kings County Medical Association.—At the annual meeting of the Kings County Medical Association, held Friday, January 10th, the election of officers for the current year was declared as follows: President, Dr. William McCollom; vice-president, Dr. L. A. W. Alleman; recording secretary, Dr. J. C. Bierwirth; corresponding secretary, Dr. H. B. Reed; treasurer, Dr. J. R. Vanderveer; and member of the executive committee, Dr. E. R. Squibb. The scientific subject before the meeting was an extemporaneous discussion of epidemic influenza.

An Inspection of the Yellow-fever Fields.—The arrival in Havana, Cuba, is announced of Dr. Hamilton, of the Marine-Hospital Service, and Dr. Horlbeck, of the Charleston Board of Health. They are a part of a medical committee empowered to make a midwinter inspection of the yellow-fever habitats in Cuba and also of the Key West quarantine, Tampa, Sanford, and other exposed points in Florida. The case reported December 31st from Jacksonville as yellow fever has been denied to be of that nature by Dr. Daniel, president of the Florida Board of Health.

Fatal Pyæmia following Rape.—The British Medical Journal states that Dr. A. S. Underhill, of Birmingham, England, has recently reported to his local medical association the results of a case where death was occasioned by an attempt at rape. The victim, aged fourteen years, suffered severely from shock and from a septicæmia which had its starting point in a laceration of the fourchette. This laceration was followed by metritis, a plugging of the right iliac veins, by repeated rigors, and by secondary deposits. The fatal issue occurred at the end of the third week after the assault.

Montgomery County Medical Society, Pennsylvania.—The members of the Montgomery Society in Pennsylvania have elected as their president Dr. Alice Bennett, resident physician at the State Hospital for the Insane, at Norristown.

The New York Academy of Medicine.—At the next meeting of the Section in Theory and Practice of Medicine, on Tuesday evening, the 21st inst., the nomination and election of officers will take place, and Dr. Walter Mendelson will read a paper on The Physiological Treatment of Obesity.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 23d inst., the nomination and election of officers will take place, and Dr. J. R. Goffe will read a paper on Four Successful Cases of Supravaginal Hysterectomy for Fibroid Tumors.

At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 28th inst., the nomination and election of officers will take place, and a demonstration of cases and new instruments will be made. Dr. James E. Nichols will read a paper on A Method of Correcting Adhesions between the Soft Palate and the Pharyngeal Wall, and Dr. Joseph O'Dwyer will read a paper on Intubation in the Chronic Laryngeal Stenosis of Adults, and exhibit cases and new instruments.

The Philadelphia Polyclinic.—Among the new laboratory courses is one on experimental physiology and therapeutics, in the charge of Professor Thomas J. Mays, M. D. In this course the students are taught the methods of experimental physiology so far as these pertain to therapeutics; after which these methods are utilized for the purpose of discovering new drug properties, and of studying more thoroughly the action of those drugs already known. Demonstrative lectures will be given on therapeutic subjects from time to time during each term. The laboratory is furnished with all the necessary apparatus and appliances.

The New York Pathological Society.—The following officers were elected at the annual meeting, held January 8, 1890: President, Dr. J. West Roosevelt; vice-president, Dr. H. P. Loomis; treasurer, Dr. J. H. Hinton; secretary, Dr. T. L. Stedman; editor of the Transactions, Dr. G. C. Freeborn; committee on admissions and ethics, Dr. W. P. Northrup, Dr. H. P. Loomis, Dr. R. H. Sayre, Dr. J. S. Ely, and Dr. R. G. Freeman; committee on publication, Dr. T. M. Prudden and Dr. W. B. James.

The late Dr. Lewis Hall Sayre.—At the meeting of the Board of Governors of the Hackensack Hospital, held on January 7, 1890, the following resolutions were adopted and ordered to be placed on the minutes of the board:

Resolved, That the death of Dr. Lewis Hall Sayre, one of the consulting surgeons to this hospital, is deplored by us as a great calamity to this institution, and deprives us of a man possessed of fine surgical knowledge and skill.

Resolved, That the services of Dr. Sayre, always so freely and cheerfully rendered, have been of inestimable value to the medical staff and patients of our hospital, and can only be suitably estimated by One who said, "Inasmuch as ye have done it unto one of these, my brethren, ye have done it unto me."

Resolved, That to the family of the deceased we offer our heartfelt condolence, and assurance that the memory of his skill and generous kindness will be cherished by this board and passed on to our successors as a precious legacy.

David Terhune,
Alvah Trowbridge,
David St. John, M. D.,
Committee.

Professor Anton von Troeltsch, the otologist, is reported to have died at Würzburg on the 11th inst.

Change of Address.—Dr. J. B. Bogart to 407 Washington Avenue, Brooklyn.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 29, 1889, to January 11, 1890:*

Cabell, Julian M., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 249, A. G. O., October 25th, is extended one month. S. O. 304, A. G. O., December 31, 1889.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, Paragraph 1, S. O. 180, December 6, 1889, Department of the Missouri, transferring from Fort Lewis, Colorado, to Camp Wade, Kingfisher, Indian Territory, is confirmed. Par. 6, S. O. 303, A. G. O., December 30, 1889.

Mearns, E. A., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 244, October 19, 1889, from this office, is extended two months. S. O. 303, A. G. O., December 30, 1889.

Powell, Junius L., Captain and Assistant Surgeon. By direction of the Secretary of War, ordinary leave of absence for two months is granted in extension of the leave of absence on account of sickness granted him in S. O. 258, November 5, 1889, from this office. Par. 1, S. O. 1, A. G. O., January 2, 1890.

Loring, Leonard Y., Major and Surgeon, will, by direction of the President, report in person to Colonel Benjamin H. Grierson, Tenth Cavalry, president of the Army Retiring Board, at Los Angeles, Cal. Par. 3, S. O. 6, A. G. O., January 8, 1890.

Maus, Louis M., Captain and Assistant Surgeon. By direction of the Secretary of War, leave of absence for six months on surgeon's certificate of disability, with permission to go beyond sea, is granted. Par. 13, S. O. 4, A. G. O., January 6, 1890.

Walker, Freeman V., First Lieutenant and Assistant Surgeon (Jackson Barracks, La.), is granted leave of absence for one month on surgeon's certificate of disability. Par. 7, S. O. 5, Division of the Atlantic, January 7, 1890.

Benham, R. B., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty in the Department of the Platte, to take effect upon the abandonment of Fort Laramie, Wyoming, and will then report to the commanding officer at Madison Barracks, N. Y., for duty at that station. Par. 8, S. O. 6, A. G. O., January 8, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending January 11, 1890:*

Clark, John H., Medical Inspector. Ordered to the U. S. Steamer Baltimore.

Diehl, Oliver, Passed Assistant Surgeon. Ordered to the U. S. Steamer Baltimore.

Stitt, E. H., Assistant Surgeon. Ordered to the U. S. Steamer Baltimore.

Smith, Howard, Surgeon. Ordered to the U. S. Steamer Alliance.

Gatewood, J. D., Passed Assistant Surgeon. Ordered to the U. S. Steamer Despatch.

Tryon, J. R., Surgeon. Ordered to the Naval Medical Examining Board.

Scofield, W. K., Medical Inspector. Ordered to special duty at New York city.

Guitéras, D. M., Passed Assistant Surgeon. Ordered to the Naval Hospital, Philadelphia, Pa.

Whiting, Robert, Passed Assistant Surgeon. Detached from the Minnesota and ordered to the Dale.

Pickrell, George McC., Assistant Surgeon. Detached from the Dale and ordered to the Minnesota.

Society Meetings for the Coming Week:

Monday, *January 20th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *January 21st:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Franklin (annual), Kings (annual), Otsego (semi-annual—Cooperstown), and Westchester, N. Y.; Ogdensburgh Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Baltimore Academy of Medicine.

Wednesday, *January 22d:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Philadelphia County Medical Society.

Thursday, *January 23d:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Roxbury, Mass., Society for Medical Improvement (private); Brooklyn Pathological Society; Pathological Society of Philadelphia.

Friday, *January 24th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *January 25th:* New York Medical and Surgical Society (private—annual).

Letters to the Editor.

POISONING BY ILLUMINATING GAS.

Zanesville, Ohio, *January 1, 1890.*

To the Editor of the New York Medical Journal:

Sir: Dr. Kloman's article on gas poisoning published in the Journal some time ago evidently created the impression that he was the first to use the treatment in question. I wrote my article to correct that erroneous impression and to record my case. I meant no imputation. Speaking of the treatment in question, in his letter he says: "I *am* unaware who mentioned or used it earlier, and shall be very glad to be informed." If the doctor will reread my article he surely will obtain the desired information. Nitroglycerin was first put in the shops in the form of a solution. I have been carrying the tablets for nearly a year. J. C. Crossland, M. D.

ORCHITIS WITH EPIDIDYMITIS CURED BY COMPOUND LICORICE POWDER.

59 Rivington Street, New York, *December 18, 1889.*

To the Editor of the New York Medical Journal:

Sir: L. G., eighteen years of age, came to my office on December 13th complaining of epididymitis and orchitis of more than two months' standing. He had been treated in different dispensaries, the last one the German Dispensary. On examination, the left testicle was found to be as large as a fist, hard and very tender to pressure. The epididymis was as thick as the middle finger, and felt like a large steel sound. He suffered from pain to such an extent that he had been obliged to give up his work and take to his bed. When he came to my office he was assisted by his mother. His general appearance was cachectic, his bowels costive. He stated that the dispensary treatment had not benefited him and that he had lost his strength. I prescribed for him compound licorice powder in teaspoonful doses, and an external application of tincture of iodine. On the 17th of December he again came to my office. His appearance had changed for the better to such a degree that I scarcely recognized him. The swelling of the testicle had disappeared altogether, that of the epididymis was much reduced, and the pain was entirely gone. He came to thank me for the treatment, and to ask my advice about continuing to rub in the powder, one application of which had helped him so wonderfully. "Did you rub in the powder, and what did you do with the little bottle?" I asked him. "I took one teaspoonful from the bottle," he answered, "and, as I felt some pain in my bowels, I stopped it and continued to rub in the powder." Of course, a one-drachm dose of the tincture of iodine operated like a charm in his case, but how did he escape being poisoned by such a dose? Leo Dann, M. D.

Proceedings of Societies.

THE SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

Meeting of December 4, 1889.

The President, Dr. Richard Kalish, in the Chair.

Paralysis of Obscure Origin.—Dr. E. Le Fevre presented a case in order to elicit suggestions as to the ætiology and treatment. The patient was an apparently healthy young man who had begun to suffer last August with pain upon one side of the head. This had been followed by severe earache which had persisted until October 15th, when he came under the speaker's care. He had had no chills, and, although suffering from painful deglutition, he could not say just when this began. On examination, a boggy swelling was found to extend up into the parotid region on one side of the face; the roof of the mouth was œdematous; tonsils enlarged and congested, saliva dribbling constantly. There were no concretions in the ear and no perforation of the drum; no naso-pharyngeal catarrh, and no asthmatic symptoms. The hearing was slightly impaired. At the second visit there was deviation of the tongue, slight ptosis, and an involvement of the muscles of the face. He was unable to whistle, and deglutition was so imperfect that food collected behind the palate. The pupil on the affected side was much smaller than on the other, but both reacted to light. For a while everything eaten tasted sweet. There were no enlarged glands except in the groin, and no specific history, nor did he respond to specific treatment. There were no other paralyses. The faradaic current was the only thing that had been beneficial, and this had given prompt relief. Reaction to the galvanic current was very imperfect.

Dr. A. Brothers looked upon the case as one of unilateral facial paralysis probably caused by exposure to cold.

Dr. Gorham Bacon was inclined to look upon the case as one of inflammation of the middle ear resulting from cold.

Dr. Matthew D. Field called attention to the fact that the reaction to the galvanic current indicated a central lesion.

Rupture of the Aortic Valves following a Severe Fall.—Dr. Herman M. Biggs presented specimens illustrating several rare and interesting pathological lesions. The patient after a severe fall had suffered from disturbance of the heart's action, and had been found to have a double murmur at the aortic orifice, and a murmur at the apex, probably due to mitral regurgitation. The symptoms had become more severe, and had been associated with a very irregular fever. A provisional diagnosis of ulcerative endocarditis had been made. The autopsy had showed that a cusp of the aortic valve had been torn through three fourths of its extent, and the torn portion and the base of the valve were covered with a very thick deposit of fibrin. The other aortic cusps were absolutely normal, and so were the aortic valves, and, with the exception of a very slight deposit of fibrin between the pulmonary valves, the valves on the right side were also normal. The specimen had not yet been examined microscopically, but the history, together with the appearance of the exudation, made it almost certainly a case of mycotic endocarditis. The probable explanation of the mycotic process was that, as a result of changes in nutrition caused by the rupture, a localized infectious process had been established which had resulted in death. The accident was exceedingly rare.

Double Perforating Ulcer of the Duodenum.—Dr. Biggs also presented specimens from the case of a patient who had been admitted to the insane pavilion of Bellevue Hospital with a diagnosis of dementia and articular rheumatism. The patient had been in bad condition but had not been thought to be in imminent danger; however, he had suddenly gone into collapse and had died in seventeen hours. The autopsy had showed a general peritonitis with abundant sero-purulent exudation and much fibrin on the surface of the peritonæum. There had been also much intestinal fluid in the abdominal cavity, and the duodenum had been the seat of two ulcers presenting the characteristic appearance of the so called "peptic ulcers," together with two perforations about 2 cm. in diameter. The specimen was interesting both on account of the rarity of primary duodenal ulcers, and especially of a double ulceration with double perforation. The ætiology of this condition had never been satisfactorily explained. The theory which ascribed it to thrombosis or embolism was now generally discarded on account of its not being found when thrombosis or embolism existed elsewhere. The theory which found more favor at the present time was that they resulted from congestions which had been set up by temporary spasm of the blood-vessels, or that they arose from hæmorrhages into the mucous membrane, resulting in interference with the circulation of the parts. In addition to the interesting specimens just presented, the case had also furnished an instance of thrombosis of the abdominal aorta. There had been two large thrombi in the lower portion of the abdominal aorta, almost completely occluding it and extending down to the right common iliac. They could not have been of very long standing, for, with the weakened condition of the patient's heart from extensive interstitial myocarditis, the circulation would have become so impaired as to cause paraplegia. The brain had presented the lesions of an extensive pachymeningitis hæmorrhagica, the dura mater of the whole brain being involved. The middle and anterior fossæ on the left side had been the seat of a large hæmatoma which was undoubtedly the cause of the dementia.

In answer to a question from Dr. E. Le Fevre, Dr. Biggs said that the spasm of the blood-vessels need not be of long duration in order to give rise to ulceration.

Impacted Urethral Calculus.—Dr. Henry M. Silver presented the specimens removed from a patient. The speaker said that he had been called about a month ago to assist his friend Dr. Bogart in the removal of a calculus of the urethra from a patient with the following history: Mr. C., thirty-seven years of age, had first been troubled with urinary retention twenty years before, and had been told at that time by the family physician that there was some obstruction in the urethra, but that Nature would take care of it and no operation was necessary. The patient had had periodic attacks of retention of urine ever since, and when he had come under Dr. Bogart's care, on October 15, 1889, he was found to be suffering from an irregular fever, with severe pains in the right lumbar region, radiating toward the testicle. There had been anorexia and some irritability of the bladder; and as the other symptoms had declined, those connected with the bladder had become more prominent; micturition had been difficult, and the urine had been loaded with mucus. As at that time the patient had not told of his former urinary troubles, a diagnosis of cystitis had been made, and a few days later a more careful examination had revealed the presence of some growth in the urethra, which had at first been thought to be of an osseous nature. On attempting to introduce a catheter for the purpose of washing out the bladder, it had been obstructed by a calculus. The more urgent symptoms having been relieved, on November 8th the operation for the removal of the calculus was performed under cocaine. In order to facilitate the removal of the calculus, it was pressed downward as far as possible into the deep urethra, and an incision was made two inches in length externally and an inch and a half through the urethra. This disclosed two calculi, the smaller of which was half an inch long and weighed ten grains, while the other was two inches and an eighth in length, had a circumference of three inches at its largest extremity, and weighed three hundred and forty-three grains. The first calculus was removed without trouble, but the larger one required considerable dilatation of the urethra. There was rather free hæmorrhage, but it was controlled by compression and the use of two ligatures. The scrotum was bound forward so as to prevent infiltration of urine into it. The wound, with the exception of a very slight fistula, healed promptly, and the patient was able to go about with comfort. Unfortunately, the bladder had not yet been examined to ascertain the presence of any other calculi.

A Case of Mastoid Disease.—Dr. Gorham Bacon presented a boy who had had a chronic discharge from the right ear for a number of years. Two years ago an abscess had formed over the right mastoid region, and had been operated upon by the speaker, who had removed considerable pus, bony débris, and cheesy matter. There was a permanent opening into the mastoid, and, as there was very little discharge, it gave an unusually good opportunity to examine the whole mastoid cavity during life. The ossicles of the ear had disappeared by ulceration, but there was still pretty fair hearing on the right side; bony conduction was better on this side, and the tuning-fork was heard by aerial conduction, and even the slightly raised voice was audible on the affected side.

The Treatment of Croup.—Dr. A. Brothers read a paper on this subject. (See p. 60.)

Dr. Le Fevre was disappointed that the author had not clearly defined what he considered to be the pathological condition when he made use of the term "croup," and on this account he was unable to fully appreciate some of the points of the paper. He did not consider that cases of so-called "ascending croup" starting as a fibrinous bronchitis should be included in the term "croup" at all, and he was unable to understand how such cases could be in any way benefited by operation. In ordinary non-diphtheritic croup he considered the exudation was on the free surface of the mucous membrane, whereas in the diphtheritic variety the submucous tissue was involved; and hence the treatment of these two conditions must vary accordingly. In the former he would advocate the use of steam and hot applications, and in the latter constitutional treatment was all-important.

Dr. Floyd M. Crandall urged the importance of insisting upon perfect quiet of the patient even in cases of slight tonsillar diphtheria. In simple spasmodic croup he was accustomed to use emetic doses of ipecac, followed by a full dose of opium. In diphtheritic croup he had employed the bichloride of mercury in large doses—as much as a twentieth of a grain every two hours to a child of two years of age; but in those cases which were distinctly diphtheritic this method of treatment he had not found very successful.

Dr. A. B. Pope could see no reason for the advice given in the paper to stop local treatment after intubation. Contrary to the experience of the last speaker, he had been much more successful since he had begun the internal administration of the bichloride of mercury, which he had prescribed in doses just short of those which would produce toxic symptoms.

Dr. Biggs had repeatedly seen cases of almost instantaneous death following the lodgment of a foreign body in the larynx. Death apparently resulted from inhibition of the heart's action, for it was too rapid to allow of the occurrence of asphyxia. On this account he had always been at a loss to understand how the larynx tolerated so well the O'Dwyer's tube.

Dr. Le Fevre said the explanation might be found in the fact that the muscles in the neighborhood of membranous exudations were with difficulty thrown into spasm. Thus, in cases of fibrous pleurisy where he had investigated the character of the muscle changes, he had found them respond very sluggishly to the current, and this reaction seemed in direct proportion to the amount of exudation present. The nervous system seemed to be involved in the process.

Dr. Brothers said that his paper was a purely clinical one, and he had purposely avoided discussing pathological questions. Catarrhal and diphtheritic croup could not be divided by any sharp line founded on the depth to which the exudation extended. As a practical illustration of the relief that might be obtained in cases of ascending croup, he would call attention to the case of a girl, twelve years of age, who had been presented at the recent meeting of the American Pædiatric Society. Tracheotomy had been performed upon her, and large casts were discharged from the tube. The varying results obtained by the bichloride treatment might perhaps be explained by the varying dosage employed. He had repeatedly seen five to ten grains of calomel produce in adults an alarming stomatitis, whereas prolonged administration of very large doses of mercurials to children had given rise to no toxic symptoms. With regard to the propriety of local treatment after intubation, he had thought it inadvisable to continue brushing the tonsils. He had seen sudden cessation of respiration upon the introduction of the tube into the larynx, but it had been apparently caused by pushing down membrane before the tube, and in every case the child was resuscitated and lived for a short time.

THE MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting of December 27, 1889.

The President, Dr. Armstrong, in the Chair.

Exhibition of Pathological Specimens.—The President exhibited the ovaries of a patient who had been suffering for some months from very severe pelvic pain, and had thereby been rendered unfit for the ordinary duties of life. A tumor could be distinctly felt behind the uterus, and it was soft and of a semi-fluid consistence. Examination of the ovaries showed that a very considerable hæmorrhage had taken place into one and that the other had undergone cystic degeneration. The organs were functionally useless and had become a source of danger to the health and welfare of the patient.

Dr. James Stewart exhibited a patient who had been for some time under his care in the General Hospital suffering from a curious train of nervous symptoms, including persistent polyuria and weakness of the muscles of one half of the face. The cause could not be ascertained, nor had treatment any effect.

Dr. Hingston and Dr. W. Gardner both alluded to the occurrence of polyuria after the operation of ovariotomy.

Dr. Hingston then exhibited three calculi removed from the bladder. They were all of large size. The point of interest in the case was the fact that although the bladder had on many occasions been sounded, only once did the instrument strike upon stone. The urine passed through the urethra from the first.

A Case of Appendicitis.—A paper with this title, by Dr. Shepherd and Dr. MacDonnell, was then read by Dr. MacDonnell. The patient, aged twenty, a strong, healthy girl, was admitted to the medical wards of the Montreal General Hospital, under the care of Dr. MacDonnell, with a history of having had two previous attacks of severe abdominal pain during the past year. The present illness had begun nine days previous to admission. There had been a sudden, sharp pain in the right iliac fossa occurring in the middle of the night, which had been followed by distressing vomiting. The pain had continued, and after a few days' illness there had been several distinct rigors. She had been under treatment, evidently by opium, until the day of her entering the hospital. On admission there was dorsal decubitus, knees drawn up, face somewhat pinched and expressive of great suffering. The tenderness on pressure over the right iliac fossa was extreme, and pain extended from there over the surface of the abdomen generally, but especially in the direction of the right breast and up the back of the chest. Pulse 120, small, hard. Respirations hurried and shallow, 30. Morning temperature 99·4°, evening temperature 100·8°. The bowels had not moved for several days. On the following day her condition was much worse. The pain became much more severe and the whole abdominal surface was extremely tender and very hard.

Dr. Shepherd stated that on the 14th of September, 1889, he had been asked by Dr. MacDonnell to see the patient, who was suffering from symptoms of appendicitis, and that they had both agreed on the necessity for immediate operation. Without further loss of time the patient was placed under ether. After thoroughly cleansing the abdominal walls, an incision was made in the right iliac fossa, some four inches in length, having its central point a little internal to the anterior superior spine of the ilium. After cutting through the abdominal walls a mass of inflammatory tissue and omentum appeared; this was carefully pulled aside, and in doing so a small fœtid abscess was evacuated. The appendix was now searched for and was somewhat difficult to find. The first structures that came into view were some coils of small intestine and the right Falloppian tube. The cæcum was then found, and curled up beneath it, imbedded in a mass of inflammatory tissue, the appendix was seen. After cautiously separating it, preparatory to ligating, an abscess behind the cæcum, containing several ounces of fœtid pus, was found. A gangrenous ulcer was situated in the appendix quite close to the cæcal junction which had almost separated it from the bowel. The appendix was with difficulty ligated above the ulcer, it being necessary to pinch up a piece of the cæcum to make the ligature hold, and, after removing the appendix, the cavity of the peritonæum was washed out with boiled water and the wound closed, except at the lower end, where a large rubber drain was introduced into the bottom of the abscess cavity.

The patient passed a very restless night, with considerable vomiting and pain. The dressings were saturated with bloody serum and had to be renewed. The bowels acted freely two days after the operation, and at the end of a week the patient was going on well, had very little pain, and no rise of temperature. The discharge from the wound was yet in considerable quantity and had a fæcal odor. The stitches were removed on the sixth day and the wound gaped considerably at the lower end, so the drainage-tube was removed and the wound was packed with iodoform gauze. The wound gradually closed and the patient was going about the ward at the end of the fourth week. She was discharged on November 4th. On December 18th she was seen again; she had been back to her work for three weeks and was feeling perfectly well. There was still a shallow sinus where the drainage-tube had been.

The speaker said that the lateral incision was much the best where the diagnosis of the case was not doubtful, and it was much the most favorable for after-drainage; he strongly advocated the necessity of early operation in cases of appendicitis if good results were to be looked for. The cases most favorable for operation were those like the one related, those which had a history of previous attacks, had the appendix curled up beneath the cæcum and the diseased area separated from the general peritoneal cavity by a limiting boundary of inflammatory tissue. Cases with a history of previous attacks should be operated on without hesitation. These cases differed much from others where the appendix hung freely on the brim of the pelvis, and perforation occurred almost without previous warning and was not preceded by a limiting inflammation. In such cases there was a sudden lighting up of a general peritonitis of a most virulent form, which, in spite of any operation, rapidly proceeded to a fatal termination. He said there was no doubt in his mind that the degree and virulence of the peritoneal inflammation caused by perforation of the appendix varied considerably in different cases and depended on the condition of the individual and the quality of the poisonous matter extruded from the perforated appendix. In some cases operation was of no avail, even if performed early.

In the discussion which followed the reading of the paper, Dr. James Bell stated that he had become converted to the views expressed lately by Dr. Weir and Dr. McBurney that in these cases the abscess was always intraperitoneal. He had recently had two successful cases.

The necessity for early interference in cases of peritonitis was urged by several speakers.

In his closing remarks Dr. MacDonnell pointed out the frequent occurrence of peritonitis in young adults which was nearly always the result of appendix disease, and which was now amenable to treatment if the symptoms were at an early stage appreciated and properly interpreted. It was the duty of every practitioner to keep himself well informed as to what was being done in this department of medicine and surgery, and not to allow patients to go down to their graves simply because the early symptoms of appendix disease failed to attract their attention.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN NEUROLOGY.

Meeting of December 13, 1889.

Dr. Landon Carter Gray in the Chair.

Facial Hemiplegia.—Dr. Sachs showed a case of this affection. He said that a condition existed noted in only two out of forty such cases recorded—that of marked atrophy of the affected side. The atrophic changes did not affect the muscles so much as the subcutaneous fat and connective tissue. In addition to the facial atrophy there was an almost constant spasm of the left masseter and left temporal muscles. When talking, the patient would suddenly stop, unable to proceed, and while masticating her food the spasm would come on, preventing her from opening the mouth. She experienced great difficulty in speaking naturally, and there seemed to be a spastic condition of the tongue and of the two muscles mentioned; there was also distinct atrophy of the tongue on the left side. The skin on this side of the face lacked color. No unilateral sweating had occurred in this case or any diminution of sensory perception. The auditory test showed hearing to be unaffected. The pupillary conditions were normal, as were the reactions to the electrical tests.

A Contribution to the Study of Exophthalmic Goitre.—A paper on this subject was read by Dr. G. M. Hammond.

The Relation between Peripheral Irritation and Nervous Phenomena, with Special Reference to Eye Strain.—Dr. M. Allen Starr read a paper with this title. He said that the question of the exact relation between peripheral irritation and serious nervous phenomena was not a new one, but had been brought into prominence of late by those who had paid some attention to the study of eye strain. It was maintained by these recent writers that irritation arose from a lack of balance between the various ocular muscles, and was sufficient to produce various general nervous manifestations, and even such diseases as epilepsy and chorea. The enthusiasm of the exponents of this method equaled that displayed in former years by others who had worked along the same lines. Genital irritation was urged at one time by a distinguished surgeon as a cause of paraplegia. For a time circumcision was regarded as indispensable in the treatment of many nervous diseases, such as infantile paralysis and spastic paraplegia. Subsequently, congenital stricture of the urethra was brought forward as a cause of many neuroses and temporary states of nervous excitability. Recently it had been taught that the peripheral irritation of nasal obstruction was responsible for many respiratory neuroses, of which asthma might be taken as a type, while the ear and its canals, and even the teeth, had not been neglected by those in search of hidden seats of nervous affections. It was not strange, therefore, that to the influence of modern fashion certain ophthalmologists should have yielded, and that inasmuch as the exact relation between internal eye strain and nervous symptoms had long been ascertained, they should have fallen upon external eye strain as the sole remaining *point d'appui*. The object of this glance at past investigations was very largely intended, not to throw ridicule on them, but to emphasize the fact, which could not be denied, that though each form of peripheral irritation might produce nervous symptoms, no one form had such a special importance as to warrant the extravagant statements made by its earliest supporters. It had been the history of progress in every line of medical research which had been repeated in this particular. First, extravagant assertions based on hypotheses; then important opposition and negation; lastly, calm, judicial conclusion that truth lay in neither extreme. While it was undoubtedly true that many nervous disorders were produced secondarily by local irritations, it was also true that nervous affections so produced bore very different characteristics from cases of true epilepsy and the well-known forms of mental diseases. When peripheral irritation existed sufficient in degree to be in any way injurious, it might be stated as a rule, to which there were only occasional exceptions, that Nature pointed it out by producing a sense of discomfort or of pain in the part irritated. The proposition had been advanced within the past few years that insufficiency of the ocular muscle was a frequent cause of functional nervous diseases, such as epilepsy and chorea. Any one familiar with muscular physiology knew that muscular power varied constantly. Effort strengthened it if moderate, and weakened it if too long continued. Rest increased it if moderate in duration, but atrophy was the result if too prolonged. The smaller the muscle the greater the relative degree of variation. The speaker had been, during the past three years, constantly testing ocular muscles as to their power, and he had observed under the same tests in the same individual, at different times, considerable variation. He also found a relation between the patient's general condition and the power of these muscles. In neurasthenia and other functional diseases the ocular muscles would at one time show a relative weakness and at another time the test would be negative, but as these patients recovered, under treatment, their general strength and tone, a proper strength and balance of these muscles returned.

In epilepsy there was often very evident variation in the equilibrium of the ocular muscles, to the tests, before and after an attack. It was the opinion of the speaker that in normal individuals and in those affected by functional diseases the power of the ocular muscles varied considerably from time to time. It was well known by those who were doing much testing with prisms that continued efforts on the part of one or more of the ocular muscles very soon elicited complaint from the patient. In a word, a real strain of an ocular muscle produced discomfort. It was the speaker's experience that, unless an extreme degree of ocular insufficiency existed, patients did not suffer discomfort. It was also his experience that, in functional neuroses of any kind, the moment a patient's attention was directed to an organ, he became conscious of sensations in that organ which might be perfectly natural and yet which he believed to be abnormal. Spontaneous testimony was therefore more valuable than if suggested. The conclusions were those drawn from spontaneous testimony, that slight ocular insufficiencies did not produce discomfort; that, in view of the facts already established, variations in the muscular power were natural, and that Nature warned us of overexertion in any direction by means of conscious fatigue. It became evident, then, that insufficiency of an ocular muscle incapable of causing discomfort was really a matter of very little importance. The review of the subject of peripheral irritation in general had shown that any such irritation of a serious nature or of long continuance was capable of producing nervous manifestations in a nervous person, and that such irritation, by giving rise to discomfort or pain, was indicated by Nature as the cause of the symptoms. Out of three thousand cases of nervous disease, the speaker could cite only one case of true nervous manifestation undoubtedly caused by eye strain, and in his opinion such cases were rare. It had been a matter of dispute whether so-called reflex disturbances were identical with serious nervous diseases—such, for example, as hysteria, chorea, and epilepsy. The nervous manifestations arising from peripheral irritation when carefully studied differed from the ordinary neuroses in their history, and therefore presented features which were characteristic. The conclusion, therefore, which seemed inevitable was that while eye strain or other peripheral irritation might be a source of nervous manifestation, it was a rare cause of nervous disease. The speaker would class eye strain, either from muscular insufficiency or from errors of refraction, with other kinds of peripheral irritations, neither more nor less frequent and important. He considered it necessary to ascertain in any case of nervous diseases whether any form of peripheral irritation was present. But, unless it had been spontaneously observed by the patient, he would not attach much importance to its presence as an ætiological factor unless the nervous manifestations were of such a character and mode of development as to point to a peripheral origin. The speaker did not believe that true epilepsy or chorea could be produced by eye strain or cured by its relief, and thought that the general indiscriminate recommendation of treatment directed to the relief of supposed eye strain in these diseases would soon come to be recognized as malpractice.

Dr. Sachs thought that the paper was not open to discussion so far as he was concerned, because he quite agreed with the author's views, and thought that all neurologists would be unanimous in expression of similar opinion. He deprecated the extravagant way in which cases of reflex neuroses had been operated on. He considered that no difference existed between the neurotic symptoms and the supposed reflex origin of those symptoms. In cases of intestinal irritation due to parasitic invasion it was true that convulsions occurred. In such cases as he had had an opportunity of keeping under observation for years these symptoms had occurred once or twice. No other symptom could be properly classified as due to reflex origin. Even headaches accompanying eye strain, or reflex headaches from trigeminal neuralgia or dental difficulty, were no more of reflex character than a pain in the thigh due to neuritis in the sciatic nerve. It was the direct irritation of the terminal ends of the nerve which was responsible for the pain, and there was nothing reflex about it. He thought that many of the cases of facial chorea, facial twitching supposed to be due to nasal obstruction, and treated accordingly, would do much better under the ordinary treatment for chorea. He thought this subject had been overdone generally. There was no more reason for referring epilepsy to eye strain than there would be to refer spinal epilepsy to phimosis.

Dr. Knapp said he had not seen that nervous symptoms had been at all improved by treatment directed to the eye, outside the inability to use the eye and the discomfort which, of course, was real. Headaches due to insufficiency would disappear upon the proper correction of the errors of refraction, and this was one of the most thankful tasks the eye specialist had to perform. The exaggeration lay in assuming that the most minute degrees of insufficiency called for operation

Dr. Roosa, in the course of his remarks, said that in his opinion there never had been anything in the doctrine which advocated the operation on slight degrees of insufficiency for the cure of epilepsy and chorea. He had never felt any particular interest in the discussion, but it had served to bring out a few points, and would, he hoped, settle them forever. The conclusions of the author's paper were as nearly in accord with conclusions of his own as they could possibly be made.

Dr. C. S. Bull spoke in strong terms of the effect of the present method of living in this country, and especially in New York. The high nervous tension necessary to the fulfillment of the business and social requirements he considered answerable for the extreme prevalence of neuroses of all kinds. The partial tenotomy of the ocular muscles for producing any lasting effect in the direction alleged for the operation was absurd. The prismatic test of the muscular strain was the proper evidence for determining whether partial or complete tenotomy was to be done.

Dr. Birdsall said that he heartily agreed with the conclusions of Dr. Starr. Still, he thought there existed a class of cases in which there might be a reflex element from peripheral irritation, which set up a train of nervous disturbances and symptoms, the removal of which might bring relief. He thought that a certain instability in the condition of the nerves, existing in some individuals, was enough in this class for a very slight peripheral irritation to set up a very profound disturbance. No matter what the operation might be which was undertaken for the relief of this class, such patients would continue to present themselves with the same or some allied symptoms. He believed that an effort should be made, when there existed evident disturbance in the function of an organ, to restore the lost equilibrium of the muscles, or between sets of muscles. Of course, some cases, in which the conditions arose out of hereditary tendencies, might be beyond relief by operative interference, but many of the cases were dependent upon present inaccuracies of habit, overwork, over-excitement, or other causes.

Dr. Mary Putnam Jacobi said that the title of Dr. Starr's paper covered much more ground than its subject-matter did. Taken in its widest sense, the "relations of peripheric lesions to sensory phenomena" might be said to embrace the entire range of organized life, at least if we substituted the term "impressions" for that of "lesions." The fundamental function of the nervous system was directed toward the central co-ordination of the multitudinous impressions which were incessantly impinging upon the periphery of the organism, and to the direction of the resultant impulse into motor channels. Hence it was to be expected that disordered phenomena would arise, either when there were morbid impressions, or when the central co-ordination of normal impressions was defective, or when the channels of centrifugal impulse were blocked or impeded. The peripheric projection of central processes further complicated these complex relations. We all knew of the distinct sensations of the extremity of amputated limbs when the nerves of the stump were irritated. Weir Mitchell had given some remarkable examples. The hallucinations of hearing in the insane illustrated the double possibility of causation for the same phenomenon. The auditory phenomenon might be excited entirely by irritation of the brain centers, or lesions of the labyrinth or middle ear might be the proximate occasion for delusions of whispering, of persecution, etc. These delusions were only excited in a predisposed brain, and the fact illustrated the fundamental doctrine in the whole matter—namely, that peripheric impressions, however morbid, could not excite central phenomena unless the nerve centers were already predisposed. The train must be laid; then, but not till then, the touch of a match would cause an explosion. In grave hysteria the central predisposition predominated, or existed alone, and innumerable peripheric symptoms were to be regarded as projections of central processes, as cerebral hallucinations of pain or motor irritation. On the other hand, utero-ovarian disease might cause hysteroid symptoms even in persons of quite normal nerve centers, but these differed from true grave hysteria. But it was surprising how the suffering from utero-ovarian disease varied, not in proportion to the extent of the disease, but to the sensibility of the nerve centers toward which its irritations irradiated. The speaker had been much struck with Dr. Starr's remark that epileptoid, hysteroid, and choreoid symptoms, dependent on peripheric lesion, would be distinguished objectively from true epilepsy, hysteria, and chorea; and especially that the epileptoid attacks were remarkable for their sudden frequency, while in true epilepsy the attacks at first came on at long intervals. She had recently seen this observation confirmed in a little boy of four, where an operation for circumcision, plus bromide treatment for eighteen months, had entirely cured an onset of rapidly recurring attacks resembling *petit mal.* In the most striking and authentic cases of remote effects from peripheric lesions the effect consisted in some isolated symptom that was quite different from a complex disease. The most famous class of cases were the so-called reflex paralyses, attributed by Brown-Séquard to vaso-motor spasm in the nerve centers, by Leyden to ascending neuritis, by Jaccoud and Weir Mitchell to exhaustion from shock, by most recent writers to inhibition. Brown-Séquard's theory was entirely exploded; but it seemed as if the three remaining theories might all apply to different cases, but especially the doctrine of inhibition. Weir Mitchell had related in detail seven cases of paralysis of one or more limbs occurring suddenly at the same moment as dried paralysis from traumatism of another limb. Paraplegia from utero-ovarian disease undoubtedly existed, but the question always arose whether it was produced by direct inhibition of the lumbar-cord centers or whether it could be due to a coincident hysteria. The speaker had observed one case where a profoundly neurotic girl of twenty, after suffering for some time from moderate ovarian paræsthesia in the abdominal region, had become suddenly but incompletely paraplegic. A few months later Dr. Thomas had found a prolapsed ovary, but distinctly denied any "reflex" character to the paraplegia which he called "hysterical." It had continued to grow worse until the girl had been unable to execute the slightest movement of the lower limbs, even the toes. She had remained bedridden for eight years and had then been considered by a neurologist to have an incurable myelitis. She had suffered terribly from dysmenorrhœa, by which she had been prostrated for nearly three weeks out of every month. For this Dr. Mundé had been consulted, who, having tried many other means without success, had removed the ovaries simply to relieve the suffering, and without expecting to affect the paralysis. But in ten days after the operation the patient could move her toes, and in a short time recovered her ability to work. She was also relieved of her menstrual suffering, but remained a good deal of an invalid. Dr. Mundé reported the ovaries as macroscopically normal in structure, although prolapsed. Like Dr. Starr, the speaker had read with great interest the recent paper by Dr. Goodell. Certainly its statements could be indorsed, that there had been an immense exaggeration in referring symptoms of all kinds to entirely insignificant lesions of the utero-ovarian system, or even in assuming the necessary existence of these lesions where they could not be tangibly demonstrated. The course of reasoning in such cases implied often a willful lack of logic and of care in analyzing the proportion of evidence, perhaps also deliberate neglect of the pathological laws of all parts of the organism beyond the range of the specialist. The speaker could not refrain from noting that, had such errors been committed by any special class or race, or by practitioners of one sex alone, they would have been deemed sufficient to pronounce that sex quite incompetent for practice.

Dr. L. H. Sayre spoke in advocacy of the benefits to be expected from operative interference for nervous phenomena obviously due to reflex causes originating in the genitals of young persons.

The Chairman said that he had known cases of nocturnal incontinence, and of night-terrors in children, to be cured by cutting off the prepuce. He had seen cases of epilepsy benefited by this operation, and had operated on quite a number of epileptics and seen them improve after circumcision. To satisfy himself, however, he had in two cases cut out a large area of skin from the back. These two patients had improved just as much as those in whom the operation for phimosis had been done. Another patient, who had been having five to ten epileptic attacks a day, had come to the city for advice and treatment, and did not have a single attack while here, the fits coming on again when the patient returned home. Some patients would have a series of seizures during several months, when these would cease perhaps for years. He had never seen anything but slight improvement follow operations on the ocular muscles or from the use of prisms in epilepsy. As to chorea, he only knew of three cases in which the method had been tried, and not the slightest improvement had resulted. Cases of migraine and of that form of headache which was a neurosis—neurotic, not neuralgic, in character—he had been informed were greatly improved by operation. One case of his own he could also cite—that of a man of active prominence, who had been incapacitated for a year by some vague form of nervous trouble, and was enabled to return to his work in a short time after his ocular muscles had been exercised by means of prisms. He thought that the nervous systems of such individuals were, as had been suggested, of an unstable character, unable to properly seize and co-ordinate the impressions, and that this very condition of instability which gave rise to the nervous phenomena observed was the condition most likely to respond to operative interference.

Dr. Starr said that he did not wish to deny the possibility of certain reflex manifestations as likely to arise from genital irritation, but believed the underlying condition was an unstable and weak nervous system, and peripheral irritation was only one, and not necessarily an important, cause of certain nervous phenomena.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of November 15, 1889.

Dr. A. B. Judson in the Chair.

The Treatment of Talipes Equino-varus by Continuous Leverage.—A paper on this subject was read by Dr. H. L. Taylor, who said that, viewed from behind, this deformity was a curve of the foot and leg with its convexity directed outward. In order to exert continuous leverage, a splint was applied to the inner or concave side of the curve, and then the deformity was reduced by drawing the foot and leg to the splint. By progressively bending the splint, valgus might be produced. Leverage should thus be applied to overcome, first, the varus, and afterward the equinus, the heel cord being left until the plantar fascia had yielded. Tenotomy did not take the place of systematic mechanical treatment.

The appliance used by Dr. Taylor consisted of a steel shank, which was easily bent according to the requirements of the case, pivoted to a foot-piece composed of a sole plate and a side plate. It was worn inside the shoe. The shoe could not hold the foot, as it had no certain grasp, and the foot slipped and turned inside. The foot was to be held and gently forced into position by the properly applied pressure of straps and buckles, the sole being kept in contact with the sole plate by a three-tailed adhesive plaster applied to the leg, a piece of webbing being attached to the plaster and buckled to the heel of the apparatus. Moderate continuous stretching thus applied was irresistible, and was easily borne by the patient. During the prolonged after-treatment the patient went about quite independently, the brace being completely concealed by the shoe and stocking.

Dr. V. P. Gibney had formerly corrected both the varus and the equinus at once, but for some years past he had been in the habit of first converting the equino-varus into equino-valgus and then reducing the equinus, the after-treatment being conducted with a retentive apparatus. He preferred taking six months to reduce the deformity, which could be done in many cases without tenotomy; but a speedy method consisted in giving an anæsthetic and molding the parts for ten or fifteen minutes, and then reducing the varus by manual force. A light plaster-of-Paris bandage held the foot in equino-valgus for four weeks, and then the tendo Achillis was cut, and for ten days the foot was held in calcaneo-valgus. An apparatus was then applied, and the parents were instructed in regard to the after-treatment. In those cases in which the bones were unmistakably distorted and elongated on one side and atrophied on the other, he had tried various methods, including excision, stretching, and gradual and rapid replacement, with good results.

Dr. N. M. Shaffer preferred to use an apparatus applied on the outer side of the foot, believing that if applied on the inner side it would have an improperly located center of motion, as was demonstrated on the blackboard. Points of pressure, however, were made, as in the apparatus described by Dr. Taylor, on the inner aspect of the heel and the inner and upper aspect of the tibia, while between these points of pressure there was inserted a center of motion to the outer side of and below the external malleolus. The operator was thus enabled, by the use of the key, to exert a real traction force on the resisting lateral tissues, the heel being thrown downward and outward, after the straight line was reached, instead of upward and outward. He had not found it necessary to use adhesive plaster in this method of reducing the deformity. He favored the application of exaggerated force at very short intervals if reduction could not be effected by constant pressure. As soon as this rigorous treatment had made it possible for the patient to properly apply the foot to the floor, a walking shoe was applied, which made use of the weight of the body as a means of overcoming muscular and ligamentous resistance.

Dr. R. H. Sayre said that the treatment of club-foot was simply a question of bringing the foot into a normal position and keeping it there while shortened tissues were gaining length, and lengthened ones were contracting to their proper dimensions. If resistance was encountered, cutting the fibers was certainly preferable to tearing them by the exercise of great force. Whether or not a tissue could be stretched might be determined by putting the part on the greatest possible stretch, and, while so stretched, making point pressure with the finger or pinching the part between the finger and thumb. If a reflex spasm was obtained, this tissue would not stretch. Dr. Taylor had well said that tenotomy and osteotomy were only steps in the treatment, and the method to be adopted was to keep the foot in the normal position while it was growing. We might derive encouragement from the marked results of the Chinese in their persistent efforts to deform the foot.

The Chairman preferred a lever on the inner side of the foot, and used a single strip of adhesive plaster wound around the foot and buckled on the side of the foot-piece. In this way the ankle was drawn into the concavity, the foot was untwisted, and the heel was held in contact with the foot-plate. In the new-born, the deformity was to be reduced in the most convenient of a half-dozen approved methods. This must be done gently and thoroughly by the time the child began to walk. After that, a light brace, worn for many years, should hold the foot on the right side of the dividing line between varus and valgus, so that every foot-fall of the growing child would give an impulse toward the normal shape.

Dr. J. Ridlon thought that orthopædic surgeons frequently failed to recognize the fact that the after-treatment in these cases was of the same duration whether the deformity was corrected in a few days by operative means, or only after many months or years by instrumental means. It was doubtful if it was justifiable to confine a patient for so long a period as was usually done when instrumental means were employed simply to avoid an operation. Another objection to the mechanical treatment of these cases was that valuable time was lost during the period of growth, for a crooked foot grew crooked, and a straight foot straight. It would therefore seem desirable to correct the deformity at the earliest possible moment in order to get the benefit of the growth in the corrected position, and in order also to get the correcting force of the superincumbent weight, as described by the last speaker. Congenital cases in very young children, which yielded readily to stretching, might be treated in that way, and other cases, which could in a reasonable time be corrected by intermittent traction, would seem to be suitable cases for mechanical treatment, but the severe forms of club-foot should be subjected to more vigorous measures.

Meeting of December 20, 1889.

Dr. A. B. Judson in the Chair.

The Functions of the Ligamentum Teres.—Dr. J. D. Bryant read a paper with this title. The paper was illustrated by a preparation including the femur, the os innominatum, and one half of the sacrum. The capsular ligament of the hip joint was left entire, and the acetabulum was perforated by a trephine from the inner side of the os innominatum. A thread attached to the ligamentum teres and passing out of the opening was held in the hand of the observer, while the femur was made to describe the natural motions of the hip joint. It was found that the ligament was relaxed in all positions, excepting in outward rotation with flexion and adduction with flexion. When these positions were taken the ligament tightened, and it was thus demonstrated that the round ligament had no mechanical function excepting when the femur was flexed, and its use when this position was assumed was to check adduction and outward rotation. It was most relaxed in abduction. But the ligament was so frail that it was almost of no use in the mechanism of the joint. While it was always ruptured in dislocation of the hip, its presence could not be considered as a preventive of this accident, and it was so little liable to tension or injury, even from extreme violence to the limb, that it could hardly be considered in the question of the ætiology of hip disease. That it was the initial seat of hip disease belonged to the long list of unproved theories, assumptions that could not be gainsaid. The principal function of the round ligament was to carry nutrient vessels to the femoral head; and yet when the epiphysis joined the diaphysis the vessels returned before reaching the head, and subsequently they disappeared entirely from the ligament.

Dr. N. M. Shaffer called attention to the fact that abduction, in which the ligament was most relaxed, was the position in which the limb was found in the very early stages of hip-joint disease, when the first sign of the disease was an instinctive protection of the joint. Although motion was limited in all directions, there was the greatest limitation where the strain on this ligament was the greatest. Subsequently, when the functions of the ligament were practically abolished by the advance of the disease, the muscles assumed control independently of the ligamentum teres. As this very vascular ligament nourished the epiphysis, he believed it should be carefully studied in its relation to disease in early youth and in its early stages.

Dr. V. P. Gibney suggested that abduction was seen in the very early stage, because the patient, when standing, threw his weight on the sound limb, and instinctively put the affected limb in the position of rest in which it was abducted and advanced. He thought Dr. Bryant's demonstration made it difficult to see how this ligament could play an important part in the history of hip disease.

The Chairman agreed with the last speaker. He thought the profession had of late years turned away from the view that hip disease began in the articular surfaces or the synovial membrane, and had pretty generally agreed that it began in an osteitic focus deep in the cancellous tissue. It was therefore a backward step to turn again toward the ligamentum teres as a structure early involved.

Dr. Mary Putnam Jacobi said that it might be interesting to note that one view held was that with the termination of fœtal life the ligamentum teres ceased to have any functions. There were many such structures in the body about which learning and research might be vainly expended in the effort to discover their function, because it was really outgrown. It was highly probable that this ligament could have but little to do with the mechanics of the joint. Since the investigations of Volkmann, it had been pretty well agreed that in children disease began in the cancellous tissue; but that in adult life it sometimes occurred as a primary disease of the synovial membrane, especially under the influence of rheumatism. It was also worthy of note that in children it was often possible to mark out very distinctly the point in the clinical history where hip disease ceased to be limited to the bone and invaded the joint. She had had an excellent illustration of this in a child who had come to the dispensary with the history of having limped for several months, but who at that time had no pain and no malposition of the limb. The child was seen several times during the next few weeks, but it was only after some time that it returned complaining more of pain than of limp. Then the leg was found to be adducted and somewhat flexed, and passive abduction was excessively painful. From that time the case had followed the usual course of hip disease.

Dr. R. H. Sayre had found in the early stages of most cases of hip disease that the first movement to be markedly limited was that of internal rotation. Yet internal rotation, as shown by Dr. Bryant's preparation, did not make traction on the ligamentum teres. Hip-joint disease might be either synovial or osteitic, although in the vast majority of cases it was primarily osteitic. In childhood, cases were occasionally found of disease of the knee and ankle particularly, which were apparently synovial from the outset; and the same occurred, though rarely, in the hip.

New Inventions, etc.

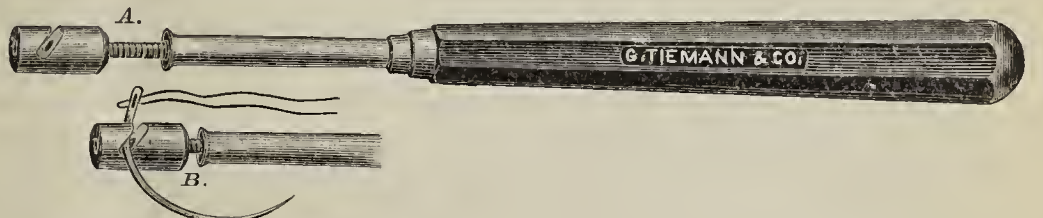
A NEW SURGICAL NEEDLE-HOLDER.

By Fred. J. Leviseur, M. D.,

PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL AND DISPENSARY.

While engaged with improving some instruments for dermatological use I devised a new surgical needle-holder, which I take the liberty of warmly recommending to the profession. The mechanism of the instrument is not founded on the principle of the forceps, but on that of the screw, and my needle-holder consequently differs from all the others already in existence. It consists of two parts—the handle and the small movable head. The handle terminates in a double-threaded male screw. The head—a cylindrical piece of steel—is perforated from end to end in the direction of its long axis. A part of this bore-hole contains the female screw, into which the handle fits. The head is slit open in the direction of its small axis—namely, so that the slit meets the long axis at an angle of about 45°. The accompanying woodcut (Fig. A) shows this simple arrangement very well.

To use the instrument: Take the holder, slit upward, in your right hand. Holding the needle in your left hand, insert it in the slit, concave side downward. Turn the handle to the left until the male screw inside the head has been sufficiently retracted to allow the needle to sink to the bottom of the slit. Turn the handle to the right until the needle is firmly grasped (Fig. B). After the needle has been pushed through the tissues, it is disengaged from the holder by half a turn of the handle to the left. In order to get hold of the protruding point of the needle, catch the latter in the slit from below, and tighten the screw in the same manner as before. The needle is finally pulled out of the tissues by an easy rotatory motion of the hand.



Any kind of needle can be used with my new needle-holder, but curved needles, especially those of the Hagedorn kind, are particularly well adapted for it.

The well-known firm of George Tiemann & Co., who manufacture and sell the instrument, furnish it with a vulcanized rubber handle, which is in no way affected by prolonged boiling. It is consequently very easy to keep the instrument thoroughly clean. The head can be entirely unscrewed from the handle and cleansed by the aid of absorbent cotton according to the strict rules of modern antisepsis.

My new needle-holder is very simple as to mechanism, prompt as to action, reliable as to cleanliness, and cheap, and will therefore find an appropriate place in the general practitioner's pocket-case of instruments.

687 Lexington Avenue.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending January 10th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Jan. 4.	1,595,547	1.202	..	..	..	..	..	..	7	11	31	7	12
Philadelphia, Pa.....	Jan. 4.	1,040,245	492	..	..	..	..	..	..	24	5	17	..	....
Baltimore, Md.......	Jan. 4.	500,343	166	..	..	..	..	..	..	2	..	7	6	...
St. Louis, Mo	Dec. 28.	450,000	127	..	..	..	..	..	..	2	1	6	..	....
Boston, Mass	Jan. 4.	420,000	348	..	..	..	..	..	..	2	1	18	..	....
San Francisco, Cal...	Dec. 27.	330,000	......	..	..	..	..	..	..	9	..	3	..	....
Cincinnati, Ohio.....	Jan. 4.	325,000	116	..	..	..	..	..	..	4	..	9	..	1
New Orleans, La.....	Dec. 28.	254,000	104	..	..	..	..	..	..	1	..	..	..	....
Washington, D. C ...	Jan. 4.	250,000	95	..	..	..	..	..	..	4	2	5	..	1
Minneapolis, Minn...	Jan. 4.	200,000	39	..	..	..	..	..	..	4	2	2	..	....
Kansas City, Mo.....	Jan. 4.	180,000	32	..	..	..	..	..	..	..	..	3	..	1
Providence, R. I.....	Jan. 4.	127,000	63	..	..	..	..	..	..	..	..	6	1	....
Indianapolis, Ind....	Jan. 3.	124,450	20	..	..	..	..	..	..	1	1	..	..	....
Toledo, Ohio	Jan. 3.	89,000	24	..	..	..	..	..	..	1	..	5	..	....
Fall River, Mass.....	Jan. 4.	69,000	19	..	..	..	..	..	..	1	..	..	..	1
Nashville, Tenn......	Jan. 4.	68,531	15	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C......	Dec. 28.	60,145	29	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C......	Jan. 4.	60,145	39	..	..	..	..	..	..	3	..	..	..	....
Portland, Me	Jan. 4.	42,000	18	..	..	..	..	..	..	..	..	1	..	....
Manchester, N. H....	Dec. 28.	43,000	20	..	..	..	..	..	..	1	..	..	1	....
San Diego, Cal.......	Dec. 25.	32,000	1	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y...	Jan. 4.	30.000	5	..	..	..	..	..	..	1	..	..	..	....
Canton, Ohio	Jan. 3.	30,000	4	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa..........	Dec. 28.	30.000	6	..	..	..	..	..	..	1	1	..	..	....
Auburn, N. Y........	Jan. 4.	26,000	6	..	..	..	..	..	..	..	1		..	....
Newport, R. I........	Dec. 26.	23.000	3	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I........	Jan. 2.	23,000	5	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.......	Jan. 4.	21,553	12	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	Dec. 28.	15,000	3	..	..	..	..	..	..	..	..	..	..	....

The Death-rate of Boston.—There were 416 deaths in Boston in the week ending January 11th at noon, the rate being 51·5. One hundred and nineteen people are reported to have died of pneumonia, and a large number of these cases were caused by the prevailing influenza. In the corresponding week last year there were but 12 deaths from pneumonia and but 180 deaths altogether. The number of cases and deaths from other infectious diseases reported this week is as follows: Diphtheria, 37 cases and 17 deaths; scarlatina, 15 cases and 1 death; typhoid fever, 7 cases and 4 deaths; measles, 3 cases and no deaths. The deaths from consumption were 69, heart disease 26, bronchitis 29, and marasmus 5. There were 8 deaths from violent causes, including two railroad accidents. The number of children who died under one year was 49; number under five years, 87; number of persons who died over sixty years of age was 89; deaths in public institutions, 66.

The following table shows the remarkable increase of mortality:

WEEK ENDING—	No. of deaths.	Rate.
December 7......................	153	18·9
" 14......................	153	18·9
" 21......................	192	23·8
" 28......................	232	28·7
January 4	348	43·0
" 11	416	51·5

The Conditions of Intra-uterine Infection.—"Infection of the fœtus before birth is a recognized fact, but it is, perhaps, too readily assumed that infective material may pass from the maternal into the fœtal blood by the normal channels of embryonic nutrition. Dr. Romeo Mangeri, of Catania, believes this to be impossible. As the result of wide study of the literature of the subject and of original experiments, he has come to the conclusion that no formed elements naturally pass out of the mother's blood into the fœtal circulation. Cinnabar, Indian ink, carmine, and other materials were injected into the jugular veins of animals advanced in pregnancy, but in no case could any trace of the substance employed for experiment be found in the fœtus. Passage of formed elements can only occur when the maternal placenta becomes diseased by inflammation, hæmorrhages, etc., so that the walls of the villi are destroyed. Only under these conditions can septic or specific organisms pass from the mother into the blood of the fœtus."—*British Medical Journal.*

ANSWERS TO CORRESPONDENTS.

No. 305.—We can not recommend individual practitioners or special methods of treating the affection, but we think you have succeeded so well with our colleague that his case is hopeful if the treatment is pushed. We think it would be safe now and imperative to withdraw the drug entirely, allowing some substitute, such as Indian hemp or coca, in case of untoward symptoms. It would be well to send him on a long voyage, such substitutes being furnished to the commander of the vessel, with strict instructions as to their use and as to not allowing the patient to have a particle of the drug from the use of which he is suffering. The voyage ought to be one of six months, including the outward and homeward trips.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, JANUARY 25, 1890.

Original Communications.

A CONTRIBUTION TO THE STUDY OF EXOPHTHALMIC GOITRE.*

By GRÆME M. HAMMOND, M. D.

ALTHOUGH exophthalmic goître has been recognized as distinct disease since 1835, a period of nearly forty years, ur knowledge of the disease has advanced but little in that ime. In fact, the only advantages we possessed over the arlier observers up to the beginning of the present year onsisted in a more thorough acquaintance with the symptoms they observed, in the additional knowledge of a few ymptoms, such as, for instance, von Graefe's symptom, tellweg's symptom, tremor, gastric disturbance, etc., which hey had not noticed, but which, however interesting they ay be, are of no particular value to us from the standpoint f the diagnostician, and the possession of a few remedies hich seem to act marvelously in some cases, while they re only remarkable for their inefficiency in others.

The great question of what constitutes the pathological hange which produces the symptoms designated as exophalmic goître is to-day almost as unsatisfactorily answered it was a quarter of a century ago. It is a remarkable ct and a subject for regret, in view of the tremendous adnces pathology has made in every branch of medical sciice, that greater attention has not been paid to this queson, particularly as opportunities for post-mortem examinaons are by no means rare. There is scarcely another sease, I might almost say there is no other disease, in hich the symptoms have been so clearly defined for so any years, which has been the subject of so little original search and in which so little advancement has been made. Gowers states, exophthalmic goître is truly a "mysteris malady."

In regard to the symptomatology of the disease I shall y but little. The usual three cardinal symptoms, upon e existence of one or more of which the diagnosis depends, e so well known as to need no comment. The various her symptoms, which are as often absent as they are prest, are so familiar to you all that any further mention of em is superfluous; but there is one symptom which has cently been discovered which deserves considerable atten-n. I refer to Dr. Louise Bryson's symptom. It has ver been observed before, as far as I can ascertain, and is the greatest importance in regard to the prognosis of the ease, and is also of assistance in locating the seat of the ion. Dr. Bryson's symptom consists in the inability of patient to expand the chest under forced inspiration up the normal extent. In every case that has been examd since Dr. Bryson's discovery this deficiency has been served. In some instances the loss of the power of exsion is remarkable, and Dr. Bryson states that where the ansion is found to be reduced to half an inch or less termination of the case is invariably fatal. This statement has been substantiated in at least one case that I know of. In five cases that came under the care of my assistant, Dr. Combes, and in three cases that came under my personal inspection, this symptom was observed, and in all of the cases, as recovery gradually took place, the power of the chest expansion has been slowly restored. I will not at this time discuss this symptom further, as Dr. Bryson will probably consider it in every detail in her paper on the subject which is shortly to appear.

The questions of the pathology and the morbid anatomy of this disease have always been enigmas, and have not, to this day, been positively and satisfactorily settled, though probably the solution of the problem is not far distant. A year or two ago it was almost universally believed that certain lesions discovered in the cervical sympathetic were responsible for the symptoms. At this date there are many and potent reasons for believing that, in the majority of cases at least, the sympathetic system is not involved at all, or, if it is, it is involved secondarily and that the lesion is of an irritative nature and is situated in the medulla oblongata. It may possibly not be long before the origin of the disease can be traced to even a higher level—that is, to the cortex—for it is well known that mental shocks, such as fear, which unquestionably affect the cortex, have resulted in exophthalmic goître, just as they have in epilepsy, in chorea, and many other forms of nervous disease. At the present time, however, it is only necessary to consider the two theories which can be supported by any evidence which is in the least degree conclusive. These theories are: 1. That exophthalmic goître is due to disease of the cervical sympathetic system. 2. That it is due to an abnormal condition of the medulla oblongata.

In regard to the first theory, the evidence goes to show that in many cases post-mortem examination discloses disease of the sympathetic nerve, and particularly of the cervical ganglia. The changes observed in the ganglia are enlargement, hardness and redness, granular degeneration, infiltration with round cells or with spindle-shaped cells, destruction of the ganglionic structure with increase in the amount of connective tissue. Physiological experiments on the sympathetic nerve also prove conclusively that the symptoms of exophthalmic goître can be produced artificially by this means.

The arguments against this theory are certainly very convincing. A number of cases are recorded where no changes can be discovered in either the sympathetic nerve or its ganglia. Hammar,* in a report of a case of his own where no lesion of the sympathetic could be discovered, cites twenty-two other cases where autopsies were obtained. Of these, seven showed lesions in the sympathetic system, while in the fifteen remaining no sympathetic lesion could be discovered at all. Two other autopsies have been reported since then,† in neither of which were the sympathetic nerves diseased. As to the physiological experiments, though it is admitted that many of the individual symptoms—such as dilatation of blood-vessels, exophthalmia, enlargement of the thyreoid gland, contraction of the lids, and accelerated action of the heart—can readily be obtained by producing artificial lesions of the sympathetic, it is well known that any one such lesion can not result in all of these symptoms, since some of them are produced by paralysis and others by irritation of the sympathetic. I think it will be admitted that it is clearly impossible for any one lesion to produce both irritation and paralysis at the same time.

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* Read before the Section in Neurology of the New York Academy ledicine, December 16, 1889.

* Upsala Lakäre Forhände, vol. xxiv.

† Roosevelt, Med. Record, March 31, 1889. W. Hale White, Brit. Med. Jour., March 30, 1889.

The theory of a central lesion is far more acceptable to my mind. In the first place, centers are known to exist grouped together within a small area in the medulla, lesions of which result in the appearance of the three principal symptoms of the disease.

Filehne, in his now well-known experiments, produced each of the three symptoms in turn, and in one case all three of them together—a result which has never been obtained by any single lesion made on the sympathetic. Probably the fourth symptom—Dr. Bryson's symptom—was obtained also by Filehne, although, not knowing of its existence, he probably did not look for it.

In the second place, it does not seem unreasonable to attribute the three principal conditions of vagus paralysis, vaso-motor paralysis, and respiratory paralysis—which produce the four principal symptoms, accelerated heart action, enlargement of the thyreoid gland, exophthalmia, and diminished chest expansion—to a single circumscribed lesion affecting the vagus nucleus, the vaso-motor nucleus, and the respiratory nucleus. Polyuria, which is a frequent symptom of Graves's disease, can also be produced by a lesion in this region.

Physiological research is not unsupported by post-mortem evidence. Dr. W. Hale White[*] has reported a case where "the sympathetic was found to be healthy. A series of sections were made from the lowest part of the medulla to the corpora quadrigemina. At the level of the lowest part of the olivary nucleus there was, just under the posterior surface of the medulla, evidence of slight inflammation. The next few sections were quite healthy, but those in the neighborhood of the sixth nerve showed considerable changes. Immediately under the posterior surface of the medulla, extending from the mesial line as far out as the restiform bodies, which were slightly implicated, were numerous hæmorrhages. The area occupied by these hæmorrhages did not extend deeply, so that, except for a slight implication of the nerve cells of the sixth nucleus on one side, the nerve cells had escaped injury. The hæmorrhages seemed almost entirely limited to the posterior part of the *formatio reticularis*, but there were two or three small, deep ones. They were not marked at this level, but were observed up to the lower part of the aqueduct of Sylvius."

Dr. White believes this is the first case where organic lesions have been discovered in the medulla in exophthalmic goître, but Lockhart Clark[†] reports a case where the "corpora quadrigemina and the medulla, particularly on its posterior part, were very soft, and, on minute examination, displayed the usual appearance of common softening."

Fox[*] states that "the weak point in this theory of central origin seems to be that there is so seldom any dilatation of other vessels besides the thyreoidal." There is a strong probability that there is a general dilatation of the blood-vessels. It has been conclusively shown that in exophthalmic goître the electrical resistance of the patient is very much diminished below the normal point. And although as yet there is no absolute proof, it seems plausible and probable that a general dilated condition of the vessels would account for the greatly diminished electrical resistance.

In many instances no lesion has been discovered at all, and the burden of proof goes to show that exophthalmic goître is frequently a reflex neurosis. It is not essential that even the fatal cases should be of organic origin, as a reflex irritation can readily be imagined to be of so powerful a nature as to produce almost total paralysis of the nerve cells in the medulla, which, of course, in the present state of our knowledge, would be undetected after death. The theory that exophthalmic goître is often of reflex origin is supported by clinical evidence. Semon[†] reports a case on which he operated by means of the galvano-caustic loop for the removal of multiple recurrent mucous polypi of the nose. Within a day or two after the operation exophthalmia of the right eye suddenly appeared. Gräefe's and Stellweg's symptoms were both present, but there was no enlargement of the thyreoid gland and no increased action of the heart. Hoffmann, of Cologne,[‡] reports a case of exophthalmic goître which was entirely cured by an operation performed within the nasal cavity, and Hack, of Freiberg, and B. Frankel, of Berlin, both report cases where operations for nasal diseases have cured cases of Graves's disease. It will not be amiss to mention here that Mr. George Storker, of London, reports two cases where ordinary goître disappeared after intranasal operations.

It will be observed that in all of these cases the reflex disturbance was situated within the nasal cavity. The thought will at once occur to us all that if nasal irritation can reflexly result in exophthalmic goître, irritations in other parts of the body can do the same. It would be well, therefore, in the future examination of patients, to search for and relieve such abnormal conditions as we know are most likely to result in reflex neuroses. These abnormal conditions are most liable to be found in the eyes, the nasal cavity, and the genito-urinary apparatus.

In regard to the treatment of exophthalmic goître, I shall confine my remarks to two drugs, one of which I think is entirely new to the profession as a remedy for this disease. All other remedies which have been recommended are so familiar as to render any mention of them superfluous to an assembly like this. The first agent I shall speak of is strophanthus. Strophanthus was first experimented with by Professor T. R. Fraser.[*] Wood[†] states that "the name *Strophanthus kombé* has been given to the species which is believed to yield the kombé poison," but "Blondel's[‡] researches have shown that such a species as *Strophanthus kombé* does not exist; what has been distinguished by that name hitherto is simply *Strophanthus hispidus.*"

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[*] *Op. cit.*

[†] The Influence of the Sympathetic on Disease, E. Long Fox.

[*] Fox, *op. cit.*

[†] Lancet, London, 1889, i, p. 789.

[‡] Berlin. klin. Wochen., 1888, xxv, 850.

Experiments by Fraser, Drasche, and Zerner and Loaw[#] show that strophanthus prolongs the diastole of the heart, causes it to beat more slowly and to discharge at each conraction a larger quantity of blood into the arterial system; at the same time the arteries become contracted. These facts are clearly expressed in an able article in the British Medical Journal.[‖]

Bahadhurji,[^] who experimented with strophanthus in co operation with Langgaard, of Berlin, found that strophanthus has a marked central effect upon the vagus. They report also that the respirations are at first increased, but are subsequently slower and weakened. This may be the result on the healthy organism, but in exophthalmic goître, at least in the cases that have come under my observation, the respiation becomes slower and stronger, while the power of expansion becomes greater. It is therefore probable that trophanthus affects the central respiratory center as well as the vagus center. If these statements are true, we have n strophanthus a remedy which should exert a powerful nfluence in subjugating the four principal symptoms of xophthalmic goître—namely, the exophthalmia, the enargement of the thyreoid, the cardiac rapidity, the shortned respirations, and the diminished chest expansion.

Zerner and Loaw[◊] have employed strophanthus with uccess in this disease. Brower[↨] reports three very intersting cases which were cured by this drug in from four to ix weeks. Three cases of my own show decided improvement under its use. Other observers have used it with adantage, but the foregoing cases are sufficient to show its practical utility in many instances.

The only preparations of the drug which can be obained are the tincture of strophanthus and strophanthine. The latter is hardly available for therapeutic purposes, as its extreme potency renders its use dangerous. The ordiary dose of strophanthine is $\frac{1}{5000}$ of a grain.

The other remedy which I wish to call your attention o is the carbazotate of ammonium. This drug was used at ne time principally by French physicians as a remedy gainst malarial disorders. But Wood[↕] states that the estimony so far seems to indicate that this drug has no alue as a therapeutic agent. As a remedy for exophthalmic goître we are indebted for its discovery to my clinical ssistant, Dr. A. C. Combes. He discovered it accidentally n the following way: A patient afflicted with exophthalmic goître consulted him nearly a year ago. She had been under the care of a well-known New York physician, who, not recognizing the nature of her complaint, and thinking she was suffering from some febrile disease, gave her the carbazotate of ammonium. She was subsequently told the name of her disease, and, feeling dissatisfied with her physician, she left him and consulted Dr. Combes. Dr. Combes found that under the drug she was taking her symptoms were disappearing. He continued the remedy with excellent results, and has since used it on five cases, and in all of them with benefit. I have used it on three cases of my own, with, I think, decidedly good results. Its use is, however, limited, and for reasons which I will now mention can not be given indefinitely.

Following the directions of Dr. Combes, I have given the remedy in pill form (each pill containing one grain of the drug) three times a day for the first week. In the second week two pills three times a day are given, and, if it can be borne, three pills three times a day in the third week. The physiological effects of the drug are very decided. They were observed by Dr. Combes, and his observations have been verified by my own. At about the end of the first week the skin and conjunctivæ assume a slight saffron color, which deepens if the drug is persisted in. Then a peculiarly unpleasant odor emanates from the body, which is identical with that produced by dirty feet, and can be distinctly noticed if you approach within six or eight feet of the patient. Following this, severe gastric disturbances show themselves. It is rarely possible that patients can take this remedy longer than three weeks, but while they take it the effects upon the heart, the respiratory tract, and the exophthalmia are undoubted. In view of the foregoing statements the following cases may not prove uninteresting:

Case I.—Mrs. T., whom I have the pleasure of presenting to you to-night, was first seen by Dr. Combes on June 19, 1889. She is forty-five years of age, and has passed through a good deal of worry and trouble. On June 19th her pulse was 120. Goître measured fifteen inches; chest expansion was a little over an inch. The eyes were very prominent. She was given the carbazotate of ammonium in pill form—one grain three times a day after meals. The second week she took two grains three times a day, and the third week three grains three times a day. On July 5th, sixteen days after treatment, the pulse was reduced to 112; the goître measured fourteen inches; the eyes were less prominent. On July 12th, twenty-three days after treatment began, it was found necessary to leave off the carbazotate of ammonium, as the physiological effects were very decided. The tincture of strophanthus was then substituted, in doses of seven drops three times a day. On August 23d the goître was thirteen inches in circumference; pulse, 98; eyes much less prominent. Her last measurements were made yesterday. The circumference of the neck over the goître is now twelve inches and a half; very little enlargement can be observed. The pulse is 88; the chest expansion, two inches; and the prominence of the eyeballs is almost gone. She has not taken strophanthus or any other remedy for exophthalmic goître for several weeks, yet there seems to be no return of her symptoms. No other remedies were given at the same time with the carbazotate of ammonium or with the strophanthus. Her general health is greatly improved.

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[*] Jour. Anat. and Physiol., vol. vii, p. 141.

[†] Therapeutics, its Principles and Practice, 1888.

[‡] Merck's Bulletin, No. 5, vol. i, p. 55.

[#] Wood, *op. cit.*

[‖] Amer. Practitioner, Louisville, April 27, 1889.

[^] Ref. Handb. Med. Scien., vol. vi, p. 664.

[◊] Wien. med. Woch., 1887. Wood, *op. cit.*

[↨] Jour. of the Amer. Med. Assoc., 1889, xi, p. 626.

[↕] Wood, *op. cit.*

Case II.—Mrs. J. S., aged forty-nine, consulted me on November 1, 1889. Her eyes began to protrude three years ago. Pulse, 120 and intermittent. The goître was not large; its measurement through its middle line and over the seventh cervical vertebra was thirteen inches and five eighths. The eyes were very prominent and seemed as if they would drop from their sockets. She complained of attacks of great pain in the eyeballs, lasting all day; it felt "as if the eyes would burst." The chest expansion was an inch and a half. Neither von Graefe's nor Stellweg's symptoms were present. She complained of excessive thirst, tremor, excessive sweats, leucorrhœa, and a rash on the body. She had been treated for diabetes. She was treated with the carbazotate of ammonium, in doses of one grain three times a day. On November 6th the pulse was reduced to 100, and was quite regular. The neck measurement was thirteen inches and three sixteenths, a reduction of nearly half an inch in a week. She was now under the physiological effects of the drug, so her treatment was changed to the tincture of strophanthus, in doses of seven drops three times a day. She has intermitted this treatment once to go back to the carbazotate of ammonium for a week, but at the expiration of that time she returned to the strophanthus again.

On November 15th she said she felt much better; a marked diminution in the protrusion of the right eye was noticed; the pulse was 100; temperature, 99·5°; neck same as before. She has progressed steadily up to the present time. At the last visit both eyes were decidedly less protruded; the neck measured only thirteen inches; pulse, 88; chest expansion, two inches; all other symptoms have disappeared.

I have seen this patient again this afternoon, and have the following interesting note to add: Three days ago her husband suddenly disappeared, and did not reappear for nearly two days. She was in a constant state of anxiety and fright during this period. This afternoon she complained of nervousness and tremor. Her pulse had gone up to 112; temperature, 101·5°; and her chest expansion had fallen from two inches to half an inch, which, according to Dr. Bryson's opinion, is a symptom of grave significance. The ocular examination shows increased ocular tension, disc somewhat pale, vessels distended, and apparent beginning neuritis and presbyopia.

Case III.—Mrs. H. H., colored, aged twenty-five, married, dressmaker, consulted me on November 22, 1889. She presented the following history: Previous to the exophthalmia she had suffered from rhinitis, pharyngitis, pertussis, and measles. The exophthalmia began five years ago, following a miscarriage. She also suffers from migraine, which first made its appearance at puberty. The exophthalmia has progressed from the very first. Two years ago she had an attack of rheumatism. She thinks her symptoms have advanced more rapidly since then. There are brown discolorations on the chest; there is excessive leucorrhœa and amblyopia at times. She has the typical visual hallucinations of migraine; there is also at times restricted and transient hemianopsia without headache. Early in the disease she had diarrhœa and melancholia.

Physical examination showed the eyeballs very prominent. The pulse ranged from 90 to 105, and was intermitting. The enlargement of the thyreoid was not well marked, the neck measuring twelve inches and five sixths over the middle line of the gland. The temperature was 100° F.; the chest expansion one inch and a half. Neither von Graefe's nor Stellweg's symptoms were observed. She was treated with the carbazotate of ammonium only. On December 4th the pulse was regular, and registered 86 beats per minute. The other symptoms were unchanged. She was then under the physiological effect of the drug, so it was discontinued and the tincture of strophanthus was substituted, in doses of seven drops three times a day.

On December 9th the patient said she felt better. The eruption had disappeared. The pulse was 102, neck 12½. This patient has not been seen since, but Case II, who lives in the same house with her, states that all her friends remark that her eyes do not protrude nearly so much as they did. It is also reported that the patient does not take her medicine regularly. In view of the pre-existing nasal and bronchial affections, and in view of her disease appearing immediately after a miscarriage, it will occur to us all that this may be one of those cases of reflex origin. At her next appearance examinations will be made for such reflex causes.

THE PATHOLOGY OF APPENDICICAL, PERITYPHLITIC, AND PARATYPHLITIC INFLAMMATIONS AND SUPPURATIONS,

WITH AN INTERESTING HISTORY AND POST-MORTEM.[*]

By WILLIAM HENRY PORTER, M. D.,
PROFESSOR OF CLINICAL MEDICINE AND PATHOLOGY AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

This subject, as you all well know, has been very carefully studied by many of our most competent observers during the last quarter of a century. It is also one to which, perhaps, little that is absolutely new can be added. At the same time the plain fact still remains that many are constantly being stricken down in the full vigor of their physiological powers and carried prematurely to the grave by this affection; while, in a measure, we are without the ability to stay with certainty its fatal course.

Although much progress has been made in the treatment of these conditions, there is unquestionably room for further advance. If the precise point of origin can be clearly established, and the course of the pathological changes traced step by step from the time of inception to termination and thoroughly understood, we shall then be in a better position to interpret accurately and at all stages the symptoms that are produced by the pathological processes constituting these affections. We shall be enabled early to diagnosticate the exact condition. It will also teach how to outline concisely the most desirable course of treatment, and that which will offer the greatest expectation for complete recovery.

In preparing this paper an effort has been made to give a complete and concise picture of the pathological process, with the view of making the diagnosis and treatment more certain.

First the history and necropsy findings in a most interesting and suggestive case are given in detail, as they will largely aid in clearly understanding the remainder of the paper.

For the history of the case I am indebted to Dr. Alexander Lambert, senior physician to the Fourth Medical Division of Bellevue Hospital:

L. C., aged forty-two, female, single, housekeeper, was admitted to the hospital August 20, 1888.

Family history, so far as she knew, was good, her parents having died of old age.

Previous History.—She had always been well with the exception of some of the milder diseases of childhood. She had never been pregnant, and absolutely denied the alcoholic habit. No symptoms of syphilis could be detected.

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[*] Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, November 30, 1889.

Present Illness.—The patient was troubled with a diarrhœa for about two weeks before her admission to the hospital. One week before coming to the hospital she had taken some medicine which checked the diarrhœa, and the bowels remained confined until the day before her admission. While the diarrhœa continued she had no pain, but when it ceased she was suddenly attacked in the night with a very severe pain, which was localized in the right iliac region. It was a very sharp pain, as she described it, and continued unremittingly up to the time when she entered the hospital. There was also some pain in the right hip which she attributed to rheumatism. She did not notice any swelling in the right iliac region. At the same time she commenced menstruating; the sanguineous discharge lasted only one day instead of three, which was the usual duration. This all occurred at the regular time for the menstrual epoch. The abdomen was generally swollen, and she suffered from day to day with colicky pains in the stomach. But with all these symptoms she. continued at work. She vomited once, but had no cephalalgia or any symptoms pointing to renal disease. The day before she came to the hospital the bowels moved easily, as the result of a mild laxative taken the night previous.

Physical Examination.—The patient was anæmic and emaciated. The tongue dry and red. Sordes upon the teeth and gums. Breath foul. The liver dullness extended in a line midway between the nipple and anterior axillary margin, from the fifth rib to the free border of the chest wall. Below this point in the line of the colon an intra-abdominal mass was felt that was hard and resisting to pressure. It was smooth and could be traced to a point superior to the umbilical level, and to the left of the free border of the ribs to a point two inches to the right of the median line and down to the right iliac fossa. This tumor was unquestionably the distended and displaced cæcum and ascending colon which had been crowded forward and downward, and rolled over in the abdominal cavity by the development of a paratyphlitic inflammation and abscess. The spleen came forward as far as the left anterior axillary line. The lungs were normal anteriorly. Posteriorly and to the right of the median line from a point an inch and a half inferior to the angle of the scapula down to the base of the lung there was marked dullness almost equal to flatness. Over this territory there was complete absence of vocal fremitus. The remaining portions of the lungs appeared to be sound, giving normal results. Urine amber in color, acid in reaction, specific gravity 1·024, and free from albumin. From the day of admission up to August 25th the pulse oscillated between 80 and 108; the temperature ranged between 101° F. and 103·2° F. It, like the pulse, was fluctuating and strongly suggestive of acute suppuration.

August 25th.—Since admission the tumor has continued to increase in size. There is now marked pain on pressure. Temperature high, cheeks flushed, and the patient appears somewhat apathetic. The urine was amber-colored, alkaline in reaction, specific gravity 1·021, free from albumin; microscopic examination negative.

29th.—The tumor appeared to have diminished in size and to be less fluctuating. The pain was less. The tongue still coated in the center but clean at its edges. Pulse and temperature about the same.

30th.—General condition about the same, the tumor decreasing in size and harder. Tongue dry. Respirations from August 25th to date ranged between 18 and 32 to the minute. The pulse fluctuated between 80 and 114 to the minute; the temperature from 101° F. to 102·6° F.

September 1st.—The tongue was moist and coated. The pulse was of good tension and force. There was no pain on pressing over the tumor, and it remained small in size.

3d.—No pain was caused by manipulating the patient's abdomen. The tumor was not visible and nothing was felt upon palpation, except a slight amount of resistance in the right iliac region. There was, however, the continuous elevation of temperature. The tongue was dry in the center and red and moist at the edges. The pulse was regular, of small force, and low in tension. The patient has coughed for several days.

6th.—The tongue was dry and fissured. Pulse regular, rapid, of small volume but with fair tension. Breath offensive. There still remained marked induration over the previous seat of the tumor.

8th.—The only change in symptoms was a few subcrepitant râles heard behind over the base of both lungs.

10th.—Mucous and subcrepitant râles more distinct over both lungs posteriorly, but much diminished below the eighth rib upon the right side. At the eighth intercostal space on the right side a hypodermic needle was inserted and a small amount of pus withdrawn.

13th.—Last night a hypodermic needle was again inserted at the eighth intercostal space posteriorly and on the right side, and pus again withdrawn. With the aspirator, however, only a small amount of pus was obtained, along with considerable blood. On the morning of September 13th a similar result was obtained at the ninth intercostal space. A small pus cavity was also found just inferior to this point. Cocaine was hypodermically injected in this region and an incision was made in the ninth intercostal space just above the pleura, and a small amount of very thick and offensive pus obtained. The aspirating needle was then introduced somewhat deeply through the eleventh intercostal space, which resulted in the abstraction of more pus, but apparently from another focus of suppuration. An incision was then made down through the eleventh intercostal space at the site of the aspiration. The incision extended in to about the point where the liver lies against the diaphragm. The wound did not reach the abdominal cavity, but appeared to enter a purulent center between the liver and diaphragm. Only a small quantity of pus was obtained. In fact, a large amount of pus could not be secured at any one point. A drainage-tube was inserted and an antiseptic dressing applied.

15th.—The patient appears better, the temperature having fallen. The highest and lowest points for the past twenty-four hours have been 102° F. to 100° F., this also being the lowest point reached since admission into the hospital.

18th.—Since the 15th there has been a marked afternoon rise in the temperature, reaching 103·7° F. on the afternoon of the 17th, which was the highest point reached up to date. Pulse rapid, regular, but weak. Severe sweats. There was also a small discharge of dirty pus from the drainage-tubes.

19th.—The tongue dry. Pulse regular, but rapid and weak. Perspiration less marked.

25th.—The patient growing thinner and more anæmic. The tongue red and dry. Many gurgles are to be heard in the transverse colon. Sordes upon the teeth marked. The induration in the right iliac and lumbar regions more marked. The urine of the 24th was amber-colored, acid in reaction, specific gravity 1·021; free from albumin. Chlorides diminished and the urates increased. Microscopic examination revealed an abundance of squamous epithelium and crystallized matter. The respirations rapid and shallow, about 40 to the minute. The pulse from 135 to 140 beats to the minute. The temperature still kept between 100° F. and 103° F., but the intervals between the rise and fall came more frequently, occurring several times during the twenty-four hours.

28th.—Patient delirious, noisy during the past night, and slept but little. Pulse rapid, weak, small, and of low tension.

October 1st.—Very delirious and restless. Pulse more rapid and feeble and more easily compressible. The tongue dry and fissured. The teeth heavily covered with sordes. Struggles against taking nourishment. During the afternoon she became unconscious. Pulse almost imperceptible at the wrist. The body covered with a cold perspiration. This condition remained unchanged until the following day, when, at 5 P. M., she died with a temperature of 103·8° F., the highest point reached at any time during the course of the disease.

The necropsy was made twenty-two hours after death. Rigor mortis fairly well marked. Body spare and emaciated. Dressing still intact on the right side, covering the ante-mortem wounds.

Thoracic Cavity.—The *pericardial sac* contained about half an ounce of clear straw-colored serous fluid. The *heart* was very soft and flabby, its muscular substance pale and granular. The valves, however, appeared normal. The left lung was perfectly free in its pleural cavity. It was unusually free from pigment, and appeared perfectly normal. The right lung, on the other hand, was somewhat adherent throughout, but at the diaphragmatic and inferior costal region the adhesions had developed to such a degree that the lung had become firmly bound to the diaphragm and chest wall and the inferior third of the pleural space completely obliterated. By these firm adhesions and the crowding up of the liver the lung had been compressed, which had caused it to become congested and indurated. These changes were most marked in the inferior half of the organ, where there was the least chance for the lung to be displaced. There was a marked escape of purulent fluid from the main bronchus of the right lung, but none could be detected in the left bronchus. No distinct or localized focus of suppuration could be found in any portion of the right lung by which the presence of the purulent fluid in the right bronchial tube and its absence upon the left side could be explained. The pus in the right bronchial tube can be accounted for in one of three ways: First, as the result of a unilateral purulent bronchitis; second, by an attempt on the part of Nature to evacuate the suprahepatic abscess through the lung or air passages; or, third, as the result of the incisions through the intercostal spaces, lung, and diaphragm made ante-mortem, with the view of evacuating the pus, thus opening a channel by which the purulent matter could gain access to the air tubes. The first is hardly possible, while of the other two, one or both might have taken an active part in admitting the pus to the air tubes.

Abdominal Cavity.—There was no evidence of a general peritonitis, and the localized inflammation in the vicinity of the periappendicitis was limited to a very small area. The appendix vermiformis had its origin, as is usually the case, from the posterior and internal side of the caput coli, just inferior to the ileo-cæcal valve. From this point it turned slightly downward, backward, and toward the right, and had the appearance of running directly behind the cæcum, where it finally terminated in a paratyphlitic abscess cavity, which lay behind, to the right, or external to the displaced caput coli. This necropsy appearance of the appendix vermiformis passing behind the cæcum evidently was not due to a displacement or abnormal position of the appendix vermiformis, but was produced by the accumulation of the pus behind and to the right of the caput coli, causing a paratyphlitic abscess, which in turn pushed the cæcum forward and downward to the left, toward the median line, or, as it were, farther into the peritoneal cavity, until it lay in front of, and to the left of, the normally situated appendix vermiformis, in this way covering up and affording a clear explanation for the appendix vermiformis being found so frequently at the post-mortem behind and toward the right or outer side of the cæcum. In this case the appendix vermiformis was between seven and eight inches long. Near the free or distal extremity it had become gangrenous, and its lumen opened directly into the paratyphlitic abscess cavity by an aperture not more than a quarter of an inch in diameter. At this situation the inflammatory process had evidently worked its way back into the post-peritoneal region, where the first suppurative process had commenced. An abscess had formed in the loose areolar tissue binding down the colon, and should, strictly speaking, be called a paratyphlitic abscess, because it was deep, behind the caput coli, and did not implicate its serous covering. From this point of origin the pus had burrowed upward, behind the colon, under the fascia covering the psoas magnus muscle, until the diaphragm had been reached. Here another purulent cavity had formed, situated between the superior and external surface of the right lobe of the liver and the inferior surface of the diaphragm; this pocket of pus was six inches or more in diameter. From this extrahepatic purulent zone the pus had made its way by continuity through the capsule of the liver and on into the hepatic substance at three different places, so that in the center of the right lobe of the liver three distinct abscesses had formed, and each communicated with the extrahepatic abscess by a separate and distinct channel containing pus. The largest purulent zone in the liver was two inches and a half in diameter, the smallest one inch, and the third intermediate in size.

In brief, the suppurating territory found at the necropsy might be described as a multilocular abscess which had originated in an appendicitis, which in turn excited a paratyphlitic abscess, and from this situation the pus had extended upward behind the ascending colon, until the space between the liver and diaphragm was reached, and from here on into the hepatic substance. The left lobe of the liver was the seat of a well-marked fatty infiltration. The hepatic cells, not absolutely fatty, were swollen and abnormally granular. There was also a moderate amount both of interlobular and intralobular sclerosis. The kidneys were enlarged, soft, and paler than normal. The renal epithelium was swollen and abnormally granular. In brief, there was a general fatty infiltration of both the hepatic and renal epithelial cells.

Before considering the pathology of this class of cases, it will be well to glance briefly at its ætiology, which is naturally divisible into three common classes:

First, those cases which originate from some form of external violence applied to the right iliac region—viz., a blow, kick, strain, severe compression, or mild buffer accident. With some, cold is an ascribed cause. Occasionally it may be met with in septicæmia or secondary to a psoas abscess or paranephritic suppuration.

Second, and perhaps more frequently, it is secondary to the irritation of hardened fæcal matter impacted in the cæcum, or to the lodgment of various kinds of foreign bodies in the caput coli, all of which first tend to excite a typhlitis followed by a perityphlitis, and finally by a paratyphlitic inflammation or suppuration, or an encysted intraperitoneal abscess, or possibly by a diffuse septic peritonitis.

Third, and probably the most frequent cause of all, is the impaction of fæcal matter or the lodgment of some foreign body in the appendix vermiformis, either one exciting an appendicitis, which is followed by a periappendicitis, and later by a paratyphlitic inflammation or suppuration, or an intraperitoneal suppuration, encysted or diffuse in nature.

Pathologically, we have three general classes of cases, he third divisible in two varieties:

First, those which originate from some one of the first lass of causes enumerated—one in which the inflammation r suppuration is primarily and wholly paratyphlitic and n which neither the cæcum nor the appendix vermiformis is t first implicated. This variety is unquestionably extraperioneal in its origin, and has little or no tendency to become ntraperitoneal. The very fact that the veins and lymhatics run away from, instead of toward, the peritoneal embrane, leaves an extension by direct continuity as the nly method by which the peritoneal cavity can be reached y the inflammatory process. On the other hand, the loose reolar tissue lying around and posterior to the caput coli as a very low nutritive vitality as compared with that of e peritoneal membrane; this, together with the course f the veins and lymphatics, affords a natural seat and n easy direction for the extension of the inflammation or ppurative action. The higher nutritive development of e peritoneal tissue, its more complete nutritive supply conjunction with the intraperitoneal pressure, still rther guards and prevents an extension into the peritoeal cavity.

This form may terminate in a number of ways—by solution and a complete return to the normal condition; t this of necessity is rare if the suppurative stage is fully tablished. Suppuration once developed and an abscess rmed, it may open externally through the integument, ther by Nature's own efforts or by the timely aid of the rgeon's knife, and recovery ensue. The suppuration may rrow extensively and death result from septic infection fore any vital point is reached. The abscess may open to the alimentary tract or bladder, and recovery follow. might also burst into the peritoneal cavity, and death sult, or life be saved by the timely intervention of the suron. But the peritonæum, primarily unaffected, retains its tritive supply and vitality, and tends to resist to a wonrful degree the entrance of pus into its cavity, so that is form of termination is exceedingly rare. Occasionally e paratyphlitic abscess, so called because it is deepated and behind or to one side rather than around the cum, pushes the caput coli downward, forward, to the t, and farther into the peritoneal cavity. At the same ne a typhlitis and perityphlitic inflammation may be develed. If so, the anterior and internal border of the cæcum comes adherent to the posterior peritoneal wall, and the pendix vermiformis is encapsulated in a fibroplastic exution, or an encysted intraperitoneal abscess is developed which the vermiform appendix is found inclosed, thus exning those cases in which an intraperitoneal abscess is nd at the necropsy, but in which no opening can be deted in the cæcum or appendix vermiformis. This condin is unquestionably rare, and by some is denied. What re frequently occurs is the development of an opening, condary in nature, in one of the above-named structures, t behind and within the limits of the intraperitoneal adsions, due to an attempt on the part of the encysted inperitoneal abscess to open into the alimentary tract.

The second variety of pathological changes come more strictly under the heading of perityphlitic, for in these the whole circumference of the cæcum is usually involved.

It includes those cases which originate in impacted fæcal matter, or the lodgment of some kind of foreign body in the caput coli. It may possibly follow upon the receipt of some form of external violence, which injures the cæcum. Such an injury, however, is more likely to produce a localized peritonitis or a paratyphlitic lesion. Possibly cold may be included among the causes.

One or more of these causes excites first a typhlitis, which is followed by a perityphlitic inflammation. But, before studying the pathology in detail, it will be well to consider first the anatomy of the cæcum, which in brief is this: that it is a blind extremity of the colon, excepting the small opening into the appendix vermiformis, having a mucous, submucous, muscular, and peritoneal coat, the latter most important in this connection. The cæcum, generally speaking, is about three inches in its longitudinal, lateral, and anteroposterior diameters. It is covered anteriorly and laterally by peritonæum, but in most subjects the posterior wall is uncovered by the serous membrane, and lies against loose adipose tissue or is bound down to it by a widely separated mesentery. In a small minority of cases its free extremity, or two thirds, perhaps three fourths, of its distal end is entirely encircled by the peritoneal membrane.

With this conception of the anatomy we are in a better position to follow the pathological changes. The exciting cause, whatever it may be, produces an inflammation of the mucous membrane, the muscular tunic, and finally reaches the peritoneal covering. Here again the high development and perfect nutritive supply of the serous membrane, together with the intraperitoneal pressure, tend to excite a localized cæcal and protective peritonitis, which prevents to a certain degree a further extension into the general peritoneal cavity. The course of the veins and lymphatics, the slight resistance and low nutritive vitality of the loose areolar tissue behind the cæcum, offers a natural and easy line for the extension of the inflammation and the development of a suppurating center. This is especially true in those cases where the posterior wall of the caput coli is devoid of peritonæum. There may now be easily developed a paratyphlitic abscess, as in the first variety, already described, and the termination will be by some one of the methods previously enumerated. But, owing to the cause having originated within the cæcum, there is greater liability to perforation occurring early into the peritoneal cavity and the development of a general peritonitis, or, with favorable circumstances, the encysted intraperitoneal suppuration or abscess.

When the caput coli is completely encircled by the serous membrane, the chances for the inflammation extending toward the extraperitoneal region and the primary abscess forming in the loose areolar tissue, behind the cæcum and outside the peritoneal sac, is very small, and the peritoneal cavity is more likely to be reached early in the course of the disease. If the cause is impacted and dried fæcal matter, the swelling, œdema, and serous transudation excited by the inflammatory process in many cases, together with appropriate treatment, are often sufficient to soften and remove the exciting body before suppuration is developed. With the removal of the cause the symptoms gradually subside, without the formation of a suppurating center, even in the absence of surgical interference. An abscess, once formed, will follow one of the courses already given.

The third variety includes those cases which are due to impacted fæcal matter, or the lodgment of some foreign body in the appendix vermiformis. This excites an appendicitis, and may be followed by a periappendicitis, a paratyphlitic or intraperitoneal inflammation, or suppuration. This variety is divisible into *two* subdivisions—those in which the appendix vermiformis has a decided mesentery, and those in which it appears to hang free into the peritoneal cavity.

Before attempting to explain these cases, a clear idea of the appendix vermiformis and its relative position is absolutely essential. The appendix vermiformis arises from the attached left postero-lateral margin of the cæcum, near to or at a point where the caput coli is joined to the posterior abdominal wall, and is uncovered by peritonæum. Consequently, like the cæcum, at this point or at its origin the appendix vermiformis is covered anteriorly and bilaterally by peritonæum, but has a distinct posterior mesenteric border, which is devoid of a serous covering, and through which the blood-vessels, nerves, and lymphatics reach the walls of the vermiform appendix.

In the majority of subjects the mesentery is very short, but in other cases it is well marked for half or two thirds of the total length, while in a very large number, perhaps in the majority, of all subjects the appendix vermiformis has the appearance of being completely surrounded by peritonæum. This being the case, its nutritive blood-vessels and the nerves must pass along, under cover of the peritonæum, from its origin at the caput coli to the free or distal extremity, the veins and lymphatics passing in an opposite direction.

In both of the forms just described the histological structures constituting the appendix vermiformis are situated outside the peritoneal cavity, which is also true of all the abdominal viscera. With these anatomical facts clearly in mind, let us follow the course of what justly may be called the third variety, which are divisible into two forms —those without and those having a well-defined mesentery.

First let us consider those cases due to the impaction of fæcal matter, or the lodgment of a foreign body in the lumen of the appendix vermiformis, but located within the limits of its well-defined mesentery. The gradual development or sudden lodgment of the foreign body will suddenly or gradually compress the vessels and nerves of the vermiform appendix and give rise to venous engorgement of that part of the organ beyond the obstruction, accompanied by pain. The distal end naturally tends to become gangrenous, but, owing to the fact that the lodgment of the foreign body is within the limits of the well-defined mesentery, complete mortification is not at once established, because the swelling, œdema, and serous exudation caused by the appendicitis spread apart the two layers of the mesenteric attachment of the appendix vermiformis. This opens the lymphatics or lymph spaces and helps to relieve the pressure upon the venous return, which in turn has a tendency to relieve or decrease the distal engorgement of the organ, and thus materially retards the onward progress of the gangrenous process. Here, as in the former instances, the higher nutritive development of the peritoneal membrane and its more perfect nutritive supply plays an important part, and helps to guard the general peritoneal cavity from invasion. The low grade of vitality of the adipose tissue, together with the arrangement of the veins and lymphatics, favors the spread of the inflammatory process backward, between the mesenteric layers of the appendix vermiformis, until the loose areolar tissue behind the caput coli is reached and a paratyphlitic inflammation or suppuration developed.

Here, as in all other gangrenous processes, if the dead mass is going to be separated from the living stump, it must be accomplished by the development of an ulcerative process. This always occurs at the point of junction between the dead and living tissue where Nature is sufficiently strong to throw out a fibroplastic exudation and support the reparative granulation process associated with the ulceration. This point is upon the proximal side of the obstruction, and clearly explains the reason for the perforation being always found upon the proximal side of the foreign body. It is not the obstructing body that causes the opening, but the result of Nature's efforts to cut off the dead or dying extremity.

In this class of cases there has been developed a periappendicitis, with the formation of a fibroplastic exudation around the appendix vermiformis and its contained foreign body. This is further supported on all sides by the intraperitoneal pressure. The point of least resistance will now be posteriorly and externally against the tissue between the two layers of its mesenteric attachment. Ulceration into this space results; the foreign body escapes either into the loose areolar tissue on either side of the cæcum or into an abscess cavity which has already formed in this region. In some instances the foreign body becomes encysted in this tissue and the disease gradually subsides and recovery results. The escape of the foreign body, in either case, partially relieves the distal engorgement of the appendix vermiformis, and it tends to return to the normal condition, which helps to retard the extension of the inflammatory action into the general peritoneal cavity.

Further development of this paratyphlitic inflammation or abscess crowds the cæcum and colon forward, downward, and to the left and toward the median line. This change in the position of the caput coli causes its inner and anterior border to roll inward and backward until the posterior wall of the abdomen is reached. If at this point the inflammation should extend more into the peritoneal cavity, a localized adhesive peritonitis will be developed which will encapsulate the appendix vermiformis and protect the remaining portions of the peritoneal cavity.

In some cases, perhaps in the majority of instances, an encysted intraperitoneal abscess will also be developed at this point, but within the limits of adhesions already formed.

When the necropsy is made, seeing these cases as we usually do late in the pathological process, it may be diffi-

lt to decide where the primary suppuration occurred.
it, by a careful study of a number of these cases in the
ly as well as in the late stages, this view is considered
correct one—that the primary suppurating center or
scess is extraperitoneal in origin, and secondarily reaches
peritoneal cavity. In some there may be found a per-
ating appendicitis with an encysted intraperitoneal ab-
ss and no extraperitoneal suppuration. This condition,
wever, is rare, and when it does occur the abscess usually
rsts early into the general peritoneal cavity, causing a
fuse septic peritonitis and a speedy death, unless it is
ested by timely operative interference.

The original foreign body which has excited the diffi-
ty is most frequently inspissated fæcal matter, and gen-
lly escapes into the abscess cavity. Being small, it not
requently is softened by the action of the pus, and dis-
ears or is overlooked; but when large and hard, is
dily detected.

The former fact has led some to believe that this dis-
e is not excited by a foreign body—almost too radical
iew, however, in the face of existing pathological facts.

The second division of the third variety of cases includes
se in which the appendix vermiformis has no well-de-
d mesentery, but appears to be completely encircled by
itonæum. In these the course of the pathological pro-
s is slightly different from that obtained in the former.
foreign body or fæcal matter acting as such, causes an
truction to the return of the venous circulation in the
endix vermiformis and excites an appendicitis. Up to
point the pathology is essentially the same, but from
e on it is decidedly different. Here, as in the preceding
ns, the swelling, œdema, or serous infiltration which
ompanies the inflammatory process may cause a soften-
and dislodgment of the impacted body, its removal and
ubsidence of all the symptoms, followed by complete
very.

These phenomena can be, and frequently are, repeated
he same individual, ultimately to result in a final and
l attack.

In other cases the swelling is very rapid, mortification
es at once, and an ulcerative process is quickly estab-
ed, as previously described; but, instead of opening into
postperitoneal tissue, the opening is directly into the
toneal cavity. Shock and death rapidly follow, and all
is found at the necropsy is a sphacelus of the distal
ion of the appendix vermiformis, a perforating ulcer at
junction of what was the living and the dead mass, and
e or no localized or general peritonitis, and practically
er no intraperitoneal or extraperitoneal suppuration.
th is evidently caused by the shock produced upon the
ous system by the escape of irritating gases into the
eral peritoneal cavity, and Nature attempts to resist
intrusion.

Just here a word in relation to the symptoms may not
miss. It should be remembered that the area of peri-
al nerves implicated is very small, which, together with
rapidly developed mortification, causes a total loss of
ation in the distal portion of the appendix vermiformis.
natural sequence, the symptoms are, as a rule, exceedingly mild as compared with those of an alarming and often fatal character, which are so soon to follow upon the rapidly developing ulceration and perforation.

Again, if the attack occurs, as it frequently does, at or about the time of the menstrual epoch, it is often exceedingly difficult, if not absolutely impossible, to distinguish between the symptoms produced by the two conditions until the fatal shock puts an end to all doubt.

In some of the more favorable cases, or in those that are not rapidly fatal, as above stated, the high development of the peritonæum in connection with the course of the veins and lymphatics, which is away from the obstruction and backward toward the paratyphlitic region, favors an extension of the inflammation toward the loose areolar tissue behind the caput coli. This results in the formation of a metaperitoneal abscess. The cæcum is displaced by the accumulating pus and forced inward, as already described, an adhesive peritonitis is developed, the appendix vermiformis encapsulated, or inclosed by a rapidly formed and encysted intraperitoneal abscess, as in the previous examples. Or, as occurred in the case given in full, the foreign body becomes lodged in the appendix vermiformis and excites a localized appendicitis, followed by a periappendicitis, this by a layer of fibroplastic inflammatory exudation around the entire circumference of the organ at the seat of the obstruction. This fibroplastic layer around the appendix vermiformis causes it to become adherent to the posterior wall of the abdomen. The intraperitoneal pressure being uniform, the location of greatest pressure and least resistance is posteriorly where the appendix vermiformis and its contained foreign body are pressed against the soft inflammatory exudation that causes it to adhere to the posterior peritoneal wall, and secondarily against the loose areolar plain behind the peritoneal membrane. As a result of this posterior pressure against the adipose tissue, the inflammation and suppuration extend backward into the tissue of the metaperitoneal territory, which, as we have seen, tends to suppurate easily, while the remaining portions of the peritoneal cavity are protected from any greater invasion.

Following this, the foreign body works its way back into the metaperitoneal tissue through the fistulous opening established between the lumen of the appendix vermiformis and the retroperitoneal tissue or abscess. The distal engorgement by this act is partially or completely relieved. When this process is rapidly accomplished, nearly all the intraperitoneal irritation is removed, and a very moderate amount of localized peritoneal inflammation and adhesion is quite sufficient to keep the suppuration in the extraperitoneal tissue and outside the cavity of the peritonæum.

This fact was most emphatically illustrated in the post mortem related, and has been recorded in many other instances.

The fistulous opening between the lumen of the appendix vermiformis and the abscess cavity does not communicate with the interior of the peritoneal sac except through and within the limits of the plastic exudation which binds the two layers of the peritonæum together just over the metaperitoneal abscess. This fistulous opening, with the escape of the foreign body, helps to relieve the distal engorgement and prevents complete mortification of the distal end of the vermiform appendix. The paratyphlitic suppuration may become partially encysted or chronic in nature; or it may burrow slowly but quite extensively—well shown in the case here recorded. The cæcum may be displaced inward, as previously described, either without or with the formation of an encysted intraperitoneal abscess. The final termination may be by any one of the methods given in the first variety described.

Another thing to be kept in mind in connection with these pathological conditions is the fact that these attacks occur in subjects otherwise healthy and in which the nutritive and reparative powers are fully up to par. This undoubtedly is a most decided element on the part of Nature in resisting an intrusion into the general cavity of the peritonæum.

The conclusions, looking at the subject from its pathological aspect, are:

First.—That we have three distinct varieties—the paratyphlitic, the perityphlitic, and the appendicical form—usually classed under the common term perityphlitic inflammations and abscesses.

Secondly.—In every instance, anatomically speaking, the primary origin of the pathological process is outside of the cavity of the peritonæum.

Thirdly.—In a large proportion of the cases the primary suppurating center is also outside or behind, and not within the peritoneal sac.

Fourthly.—The intraperitoneal suppuration is usually secondary to the extraperitoneal, and when it does reach the interior of the peritoneal cavity there is a strong tendency for the suppurative action to become encysted.

Fifthly.—The appendicical cases at first frequently give rise to trifling symptoms, but these are often followed by those of an alarming character.

Sixthly.—An early operation and the removal of the exciting cause will prevent both the extraperitoneal and intraperitoneal suppuration, and offers the best chance for life.

Seventhly.—Late operations are more likely to prove fatal.

Eightly.—So long as the suppuration is extraperitoneal, the external iliac or lumbar operation is to be preferred.

Ninthly.—When the suppurative action has reached the peritoneal cavity, lateral laparotomy should be performed at once, either with or without excision of the appendix vermiformis.

"The Strathmore," Broadway, corner of Fifty-second Street.

The Medical Society of the County of Clinton.—The annual meeting was held at Plattsburgh on Tuesday, the 14th inst. A paper on Epilepsy caused by Intracranial Pressure was read by Dr. J. A. Nichols, of New York, and one on Sympathetic Ophthalmia, by Dr. S. Haynes, of Saranac. A report of the society's Committee on Hygiene was read, and Dr. J. B. Ransom, surgeon to Clinton Prison, discussed the prevailing epidemic of influenza. The following officers were elected for the ensuing year: President, Dr. J. G. McKinney; vice-president, Dr. Edgerly; secretary, Dr. E. M. Lyon; treasurer, Dr. T. B. Nichols, who was also elected delegate to the State Society.

IMAGINARY FOREIGN BODIES IN THE THROAT.*

By MAX THORNER, M. D.,

CINCINNATI, OHIO.

> "Quædam non nisi decepta sanantur."—
> Seneca, De ira, iii, 40.

There are few practitioners of medicine who have not been accosted some time or other in the early days of their practice by patients who desired to find most speedy relief from a swallowed fish-bone, an inhaled insect, or a hair in the throat, etc., which their medical advisers, to their great disappointment, could not discover. They had to learn with many other great truths, that many of the foreign bodies which they are expected to extract from the air-passages exist only in the minds of their patients. Now we all know that it is often easier to cope with real enemies than with imaginary ones, and I have frequently found it far more practicable to extract foreign bodies from the throat than from the imagination of the patient.

Foreign bodies which are alleged to be located somewhere in the air-passages or œsophagus, without being there may be conveniently divided into three different classes:

1. Cases where a foreign body finds its way into the air-passages without remaining there, but leaving to the patient the sensation of its being located somewhere in that region.

2. Cases where no foreign body ever got into the throat but where some pathological condition of the thrôat imposes upon the patient the sensation of a foreign substance

3. Cases where neither of these two previous causes can be made responsible for the presumption, where no pathological change can be detected in the region under consideration, and where the sensations of the patients are either reflex in character, produced by some more or less remote ailment, as, for instance, in cases of indigestion, or where the trouble is of purely neurotic character.

I intend to consider these classes separately, and to illustrate them with a few typical cases selected from my note-book.

In regard to the first class, we must of necessity first establish the fact that an extraneous substance really found its way into the throat, and, if so, we must try to ascertain where it is. I will remark here that in using the word throat my intention is to speak of the whole upper air-passages and the œsophagus. A foreign body in the larynx or trachea will in most cases make itself known by signs no to be mistaken, such as difficulty in breathing, coughing and eventually hoarseness or aphonia. Sometimes auscultation above the trachea will reveal the presence of some foreign substance located there. If these symptoms are missing, inspection, laryngoscopic and rhinoscopic, and palpation—the latter, especially for the post-nasal space and for the œsophagus, with the œsophageal bougie—do much toward ascertaining whether the extraneous substance ha not yet been dislodged.

If all these examinations, carefully and repeatedly executed, are negative, we may reasonably conclude that the foreign body is no longer in the throat. I am fully aware hat occasionally such bodies resist all means of detection; ut this is undoubtedly the exception, and in such cases we ust simply wait for further developments. In such cases ither they will subsequently be dislodged and cease to be roublesome to the patient, or they will be the cause of ther disturbances, and thus indicate their presence and ocation.

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* Read before the Tri-State Medical Association of Alabama, Georgia and Tennessee, at Chattanooga, Tenn., October 15, 1889.

Case I.—Mr. M. H., aged fifty-four, referred to me by the ate Dr. Joseph Aub, complained of a piece of chicken bone in is throat, the location of which, according to his description, as in the naso-pharynx. While he was eating hastily a few days efore, the bone had slipped into his post-nasal space, where he sserted it still was. I was informed that his family physician as positive of having removed it with a cotton wad wrapped round a curved probe; but Mr. H. was firm in his assertion hat he was still feeling the sharp edges of at least a piece of he bone. Repeated and careful rhinoscopic examinations reealed nothing but a slightly inflamed naso-pharynx. I then alpated the naso-pharynx several times, examined the same ith a probe as well through the mouth as through the nose, ut could not detect anything. This was repeated several imes after the intermission of a few days with the same negaive result, in spite of which the patient became more and more tubborn in his belief. Suffice it to say that finally he became ather melancholic, neglected his business, and abused his famy whenever they tried to dissuade him from his belief. He sisted to me that he felt the pricking sensation of the sharp dges of the bone sometimes in the left, sometimes in the right asal cavity. One day, when I made a final attempt to conince him that such a thing was impossible, he said that he was o fully convinced of the correctness of his opinion that he ould bequeath his dead body to me in his will that I might pen his skull, and that then I would find the bone as he had aid. I now saw that the affair was beginning to seriously enanger the mind of Mr. H. He was in a condition of contantly increasing nervousness, was troubled with insomnia, and rooded incessantly over his fixed idea. I told him one day I ould give him some medicine that would gradually dissolve he bone, which idea he grasped enthusiastically. I gave him otassium bromide internally and a mild detergent wash for the ose, and had the pleasure of hearing from him after eight days hat he already felt the bone diminishing in size. After eight eeks he reported to me that the bone was entirely absorbed.

Case II.—Miss N., twenty-two years of age, came to me uly 22, 1887, complaining of a pill being lodged in her throat. he had taken the pill, a common cathartic one, about twenty-ur hours before this consultation, and located the sensation elow the middle of the sternum. Though the pill had done all at it was expected to do, I could not convince her that it ould not be still lodged in her œsophagus. Finally I introuced the sponge probang into her œsophagus and probed it nce. She was satisfied and cured.

The second class of patients comprises such patients as ave some more or less decided pathological condition in e throat which impresses them with the sensation of a reign body. Such conditions are hypertrophied tonsils, ccumulated cheesy matter or concrements in the crypts of he tonsils, enlarged uvula, granular pharyngitis, enlarged ircumvallate papillæ or a hypertrophic condition of the ymphoid nodules (the so-called lingual tonsil), or varicose eins at the back of the tongue, or varicosities in the uvula r pharyngeal mucosa. Furthermore, neoplasms in the throat may cause the sensation of foreign bodies, such as papillomata or adenoid vegetations at the vault of the pharynx. It stands to reason that we have much easier work than in the first class of cases, when we discover any of these conditions in cases where a supposed foreign body is the cause of the complaint. Our treatment will have to consist in removing the cause of the disturbance by any of the methods adapted to the purpose, and we shall not fail to obtain a cure of the morbid sensations.

Case III.—Mr. O. B., aged thirty-two, consulted me March 2, 1888, on account of a very troublesome sensation of a foreign body in his throat, that he had tried to remove by hacking, but without avail. The pharynx was deeply congested; the uvula had the thickness of a man's finger, and was one bundle of varicose veins. I destroyed the same with the galvano-caustic knife by linear incisions, and had the patient pay more attention to his bowels, as he was suffering from habitual constipation. The result was entire relief from the troublesome sensation.

The most difficult group of cases as to treatment, and frequently the most unsatisfactory ones as regards a cure, is the third class of my division. I refer to those where either a remote cause is responsible for the sensation of a foreign body, or where nothing can be found, where the throat is in a normal condition, and where we must consider the affection as a pure neurosis, a paræsthesia of the throat. It is true, however, as Mr. Lennox Browne has shown, that a great number of these neuroses of the throat, among them the time-honored globus hystericus, do in reality belong to the former class of affections; that, upon careful examination in cases of this kind, we may not infrequently find any or several of the conditions enumerated above, the removal of which will cause a speedy cure of the supposed neurosis. Yet there still remain a number of cases where this does not apply, where the trouble is, so far as we know at the present time, of a purely neurotic character, and these cases are more or less unsatisfactory. In all of these instances a foreign body never found its way into the throat, though sometimes the complaints are dated to a certain occurrence when, allegedly, a particle of food or some other extraneous object was noticed to have become located somewhere in the throat.

Case IV.—Mrs. J. M. was sent to me about two years ago by Dr. William Carson, of Cincinnati, for examination. She insisted that she had a piece of nut-shell in her throat, in the region of the larynx, which had become fixed there a few days before when she was eating walnuts. Nothing could be detected there upon careful examination. After being treated by Dr. Carson for indigestion, with which she was afflicted at the same time, the foreign body was complained of no more.

Case V.—Mrs. J. F., aged thirty-two, complained some six months ago of a hair in her throat. She was very nervous and irritable, and was greatly annoyed at the mere idea of having a hair in her throat. No cause could be ascertained for her complaint, as her throat was in a normal condition. Being somewhat chlorotic, she was given iron, tonics, etc., without any avail. She has since that time undergone various treatments, but still complains at times of the hair in her throat.

From these few remarks we must conclude that imaginary foreign bodies in the throat deserve some consideration as well as other imaginary diseases. To tell the patient that he has nothing in his throat, that he is a hypochondriac, will not do. After a thorough examination, which has to be made in every case, the peculiar circumstances will decide what course must be pursued. Where a local trouble is found, the same must be remedied; where a remote ailment may be the cause of the trouble, it must receive our attention.

In most cases where a foreign body has entered the throat, but has been removed, we may convince the patient that such is the case. When, however, we can not disabuse his mind of his fears, when we see him becoming a victim to his morbid and vivid imagination, we may, nay we even must, use some innocent deception if, by so doing, we can cure him of his presumption and restore his balance of mind.

In cases of a pure hyperæsthesia of the throat, we must resort to all those measures, local as well as general, that appear to be indicated in cases of this kind; and we may expect, from the beginning, that in a certain percentage of cases our efforts will not be crowned by very satisfactory results.

DIASTASIC FOOD AND ITS USES.

By ROBERT ORMSBY, M. D.

Having made several complete chemical tests of the diastasic food, and having found that it completely removes every trace of starch from any food, I very quickly put it to the further test of assisting the digestion of starch in the stomachs of invalids. In the first place, having been thoroughly disgusted with the number of diabetic foods that are on the market, I determined to try the efficacy of the diastasic food. I have now tried it in three cases, and have found the sugar to disappear in each case rapidly and totally. In one case in particular, occurring in a lady of thirty-four years, after she had been cured and the sugar had ceased to appear in her urine she was subjected to extreme grief. I examined her urine again, and, of course, was extremely anxious, but, notwithstanding the terrible strain upon her nervous system, there was no reappearance of the sugar. The three cases were all in persons comparatively young—that is, in the prime of life—and in each case the history pointed to mental anxiety and worry as the ætiological factor. The only medication used with the diastasic food was hypophosphites of lime and soda with phosphoric acid; but the disappearance of the sugar in the urine was manifestly due to the food, because in each case it disappeared rapidly under its use, and only slowly before while under the hypophosphites alone. I can not too strongly recommend its use in diabetes, as theoretically and practically it meets every requirement in combating this disease, because not alone can you permit your patient to use amylaceous food, but he or she will almost certainly gain in weight and strength during your treatment. The effect upon the respiration will be at once apparent, as you have the hydrocarbons pushed rapidly to elimination by the lungs during the use of this artificial diastase, and, no matter what may be the differences of opinion as to the ultimate uses of carbohydrates or hydrocarbons in the human economy, all will testify to the good effects produced by the rapid disappearance of carbonic-acid gas between the right side of the heart and the lungs.

Having demonstrated that artificial diastase will serve the same purpose to starchy food as pepsin does to nitrogenous food, it was but a step on my part to push the experimentation still further and administer the food in cases of rheumatism. Modern opinion, I think, will sustain the belief that both gout and rheumatism are largely due to a deficiency of power to take up and push to their ultimate destiny the amylaceous elements of our food. I put the diastasic food to the test and found that it worked in a very favorable manner, but the proof of its efficacy takes a much longer time than in diabetes, as if there were other elements that make the disease complex instead of simple; and no doubt this may be a correct solution, because there are certainly more causes than one in producing lithæmia. Let that be as it may, the food is certainly worthy of praise for its power in a certain number of cases of rheumatism or gout.

In conjunction with these experimental researches I also administered the diastasic food to several consumptives. Anything that will induce superalimentation in phthisical processes is the panacea for this disease, get it how we may, and herein the food proved itself a powerful auxiliary. At one blow you deliver your patient from the gaseous eructations after eating, you in every way ameliorate the conditions of the bowels, and you supply the carbonic-acid gas, which, by its rapid elimination, promotes lung power and elasticity of the chest walls. In the summer diarrhœa of infants it is, on the foregoing grounds, very efficacious. It not alone contains within itself the elements of its own digestion, but also rapidly gets rid of any undigested starch that may be in the stomach of the infant when the physician is first called. This is but a short *résumé* of how very materially this food has helped me in a number of cases, and how it bids fair to assist us greatly in some diseases which are more errors of nutrition than diseases *per se*.

170 West Tenth Street, New York.

The following letter from Dr. J. B. Rice will be of interest in connection with the foregoing article:

Fremont, Ohio, *November 27, 1889.*

Robert Ormsby, M. D., New York.

My dear Doctor: Aware of the interest taken by me in whatever relates to diastasic digestion, Dr. Plessner recently transmitted for my perusal your suggestive paper on the use of diastasic food in the dietetic treatment of saccharine diabetes. I trust you will pardon me for at once remarking that my own studies of the subject of diastasic digestion had, to some extent at least, prepared me for something like the revelation resulting from your interesting clinical observations.

The well-known fact that diabetic patients do not in general prosper long on a diet from which amylaceous and saccharine matters are too rigidly excluded, even though the quantity of sugar excreted may be thereby greatly diminished, forcibly suggests that our remedial measures, to be more effective, require to be directed more to the promotion of normal metabolism of the carbohydrate food constituents, rather than to their exclusion from the dietary.

This certainly was the view of Mialhe when, on theoretical grounds, he proposed the use of the soda salts in diabetes.

It is also the object sought for in the employment of those means which favor the thorough oxidation of carbohydrates within the body. Dr. Hughes, of St. Louis, was, so far as I know, the first to call attention to malt extract as an article rich in carbohydrates which, nervertheless, is adapted to diabetic cases, a practice the propriety of which your own experience strongly confirms. There can hardly be a doubt that if more extended experience should go still further to support this practice, it will prove to be the most important step yet taken in the treatment of a formidable and too common disease.

I beg, therefore, that you will indulge me while I take the liberty to submit the following considerations, which, to my mind, appear to afford some explanation of the facts you have observed.

Many writers on physiological subjects still habitually refer to the principal saccharine body formed from starch by the action of both salivary and malt diastase as grape sugar. A body of a quite different molecular constitution from grape sugar is in fact the result of such diastasic action—viz., maltose. The loose phraseology which so generally leads to this confusion of terms is misleading. The saccharine body which appears in diabetic urine may be properly termed grape sugar, or glucose. Grape sugar is formed by the action on starch of acids at a high temperature, and perhaps by other methods also. Maltose is formed by the action of animal or vegetable diastase. Grape sugar is probably never formed by normal diastasic digestion.

We find diabetes usually occurring in at least two distinct forms. It occurs in middle-aged or somewhat older persons who have been good livers—large eaters who take too little exercise. This class of cases is, for the most part, in a considerable degree amenable to treatment, and the most successful plan of treatment does not largely depend on depriving the patient of carbohydrate food. The most beneficial results follow the employment of measures addressed to improvement of the hepatic function, as blue pill, Carlsbad water, and a diet restricted as to quantity rather than kind, and an increased amount of physical exercise.

It also is not unreasonable to infer that, owing to deranged action of the liver, the glycogen formed and stored in this organ is in some respect defective; or else in its subsequent reconversion a grape sugar, poorly susceptible of oxidation, is formed, which, being incapable of undergoing normal metabolic changes, is thrown out with the urine. The correction of the faulty hepatic function restores the normal changes.

In the diabetes of younger persons the disorder more usually has its origin either in a disturbance at the "diabetic center," in the brain itself, or the medulla, or the chorda tympani.

We know, from experiments by Bernard, Heidenhain, and others, how promptly disturbance of the chorda modifies the salivary secretion, both as respects quantity and quality. My own experiments point to the production of a modified diastasic action of the saliva in diabetic cases of a clearly nervous origin, a modification resulting in the formation of a large proportion of dextrine and little maltose, instead of a comparatively large proportion of maltose.

In the treatment of these cases we seldom have occasion to resort to the treatment already mentioned as beneficial in another class of patients. We do not often, in the class now referred to, find any characteristic hepatic disorder. Those agents which act through the nervous system are the main dependence. We give the bromides, arsenic, opium, ergot, and exclude carbohydrates from the diet. Milk, indeed, is often allowed, notwithstanding it ordinarily contains as much as five per cent. of milk sugar, a saccharine substance which experience shows is far less hurtful than starchy food, or that containing cane or grape sugar.

If food containing malt extract, or one whose amylaceous constituents undergo diastasic digestion, is indeed found to be allowable in these cases, is not the inference a reasonable one, that this is due to the fact that maltose and milk sugar have the same molecular constitution and their behavior in relation to nearly all reagents is almost identical?

May we not also infer that one effect at least of the nervous disturbance which produces glycosuria consists in producing such a modification of the salivary secretion that it transforms large quantities of starch into glucose, and not into maltose, as in the normal manner?

If further experiment should go to confirm this proposition, have we not a most valuable resource in those agents which effect or promote the diastasic digestion of amylaceous food?

Maltose and milk sugar have the same molecular constitution. Milk sugar is the principal, if not indeed the only, carbohydrate supplied by nature to man and other mammals during infantile life. Maltose is the principal carbohydrate nourishment ever after. The organs which effect the transformation of amylaceous food into maltose by diastasic digestion develop during the period of nursing, and become functionally active when the teeth are formed and the time of weaning is at hand. Maltose, then, naturally succeeds milk sugar as the chief carbohydrate nutrient.

Amylaceous food is not suited to the young infant, because its organs of diastasic digestion are as yet undeveloped. It is imperfectly adapted to acute disorders attended by considerable rise of temperature, because then the amylolytic power of the saliva is impaired, or may be wholly suspended. It is not adapted to diabetes mellitus, depending on disturbance of the nervous centers (whenever such disturbance unfavorably modifies the action of the saliva), because starchy food is not then transformed into maltose, but into a glucose, difficult of oxidation, and which, not undergoing combustion, is not a source of heat and force, or other useful function, and is therefore expelled from the body with the urine.

There are sufficient indications that saccharine diabetes is a disease originating in one of the indigestions. It may be at one time due to error affecting the digestion of starch by the saliva or pancreatic juice, at another to faulty glycogenic metabolism.

For failure in the function of peptic digestion, perhaps even a less frequent form of indigestion, the physician often resorts to pepsin and hydrochloric acid. If the failure relates to the digestion of fats, which is very common, if the physician is successful by any means in overcoming the difficulty and succeeds in rendering his patient able to take and digest them, he feels more than half assured of arresting the progress of a most serious malady. But, on the other hand, he is far less likely to inquire whether diastasic digestion is at fault, or how far impairment in this respect may affect the general nutrition of the body. I am of opinion that this neglect is a serious one, and no longer compatible with sound practice. In plant life it is the only digestion, and suffices to furnish all the soluble and assimilable bodies—whether proteids, carbohydrates, or fats—that are necessary to construction and growth. In embryonic life the saccharine body formed by diastasic digestion is present and shares in the birth of the first and every subsequent cell out of which the organism is formed.

For many years I have, in the line of a legitimate and, I trust, useful pharmaceutical manufacture, devoted not a little time and labor to investigations in this line. If I do not greatly err, diastasic malt extract and diastasic food are ready and efficient means of combating a common form of indigestion in most acute and many chronic diseases, and are agents the proper employment of which is destined to grow in appreciation and extent of application.

Many diseases have their origin either in bad digestion or malassimilation, and nearly all diseases are prominently characterized by these conditions. We have all along given little attention to indigestion, excepting as to proteid or at least fatty food.

Is it not time to bestow more than customary attention upon the fifty or sixty per cent. of starch entering into the composition of our daily food—at least so far as to inquire how it undergoes digestion, and what are the consequences of impairment or failure in this respect? It is most gratifying to observe that among thinking and progressive physicians this important subject is receiving consideration. Investigations like those outlined in your report are of great significance, and richly deserve recognition and further study. I shall anxiously await the results of your further inquiries.

Very respectfully,

[Signed.] John B. Rice, M. D.

REPORT OF A CASE OF CEREBRO-SPINAL MENINGITIS,

WITH REMARKABLE DIMINUTION IN THE NUMBER OF RESPIRATIONS.[*]

By J. F. ERDMANN, M. D.

The following brief history is presented for discussion on account of some interesting phenomena occurring during its course:

On August 3, 1889, I was called to see Miss V., aged twenty-five, occupation trained nurse, and found her suffering intensely with occipital headache, but with no other prominent symptoms.

On August 4th and 5th the pain was still persisting, the usual remedies having been of no avail. Temperature, pulse, respirations, and pupils were normal. The patient said that her pulse was normally slow, being between 56 and 60.

On August 6th she complained of photophobia and phonophobia, slight pain in the vertex and in the occipital and cervical regions, accompanied with slight rigidity of the muscles of the neck. Anorexia and constipation were marked. Temperature, pulse, respiration, and pupils continued normal.

On the following day the rigidity of the neck was more marked. Temperature 97·5° F., pulse 52, respirations 17.

On August 8th the pain in the cervical region had greatly increased and extended to about the fourth cervical vertebra. There was marked hyperæsthesia in the lower extremities, and from midnight until 9 A. M. she was covered with a profuse macular eruption, a few of the spots remaining quite distinct on the forehead at 10 A. M. Temperature 99°, pulse 56, respirations 17.

During the following twenty-four hours she complained of severe pain in the dorsal region; fibrillary twitchings and clonic spasms of the muscles of the lower extremities were observed.

On August 10th, at 1 A. M., the respirations had fallen to 7, pulse 56, temperature 98·5°. There had been but half a grain of morphine administered during the preceding eighteen hours. She complained of soreness of the throat, inability to swallow readily, and rigidity of the jaws. At 1 P. M. the clonic spasms of the lower extremities had increased, while the trismus had diminished slightly. At 11.30 P. M. the respirations had fallen to four in a minute; patient had had but one grain of morphine and one ninetieth of a grain of sulphate of atropine during the preceding thirty hours. A hypodermic of one fiftieth of a grain of sulphate of atropine was administered, and within three hours the respirations were 9. The pain in the back had extended to the dorso-lumbar region, and that in the head to the frontal.

On the following day the respirations had fallen to 6, when one one-hundredth of a grain of sulphate of atropine was administered by the mouth.

During the 12th of August the patient vomited several times. Temperature 98·5°, pulse 72, respirations 13. During the night and early morning of the 13th the vomiting continued half-hourly.

Dr. R. W. Greene, who was called in during my absence, has kindly furnished the history for the succeeding two weeks.

On the morning of the 14th her arms became rigid, and remained so throughout the day. Her mental condition was considerably more apathetic. Temperature 97°, pulse 58, respirations 15.

At 11.45 A. M. of the 15th temperature was 97·6°, pulse 80, with very deep respirations of two to three a minute. She complained of a sense of oppression in the chest and intense pain in both back and head. The remedies administered were sulphate of atropine one one-hundredth of a grain and morphine one sixth of a grain hypodermically, with ʒ jss. of aromatic spirit of ammonia. At 3 P. M. respirations were three; it was then observed, after the administration of aromatic spirit of ammonia, that she had six to eight very shallow respiratory movements, scarcely noticeable, in conjunction with the three deep ones, during which no respiratory murmur could be detected. At 10 P. M. the respirations were 16, temperature 98·2°, pulse 70, Photophobia and phonophobia somewhat diminished.

On the following day the pain in the back and head was less intense. She partook of nourishment for the first time during the attack with great relish.

From this time on her progress toward recovery was rapid, although there was remaining considerable dull pain in the head and dorsal region on September 10, 1889. During the major portion of her illness there was a happy delirium, mild in character.

The treatment pursued was with morphine, cathartics, sulphate of atropine, and iodide of potassium in beginning dose of eight grains, increased one grain and a half each dose till twenty-five grains were being taken, three times daily. This dose after two days became intolerable, and was diminished to twenty grains. Locally, blisters and sinapisms were applied in conjunction with the ice cap.

It may be of interest to state that the patient had been nursing a case from the South presenting sufficient symptoms to justify the suspicions of its having been a case of cerebro-spinal meningitis; also that Leyden attributes the diminished and Cheyne-Stokes respirations observed in the late stages of this disease to pressure upon the medulla produced by œdema, basing his opinion on the observations of Schiff after the artificial induction of hæmorrhage in the vicinity of the medulla in dogs.

An Application for Toothache.—The Progrès médical credits Guild with a method of treating carious toothache by means of a mixture of equal parts of crystallized carbolic acid and flexible collodion, which is to be carried to the bottom of the cavity. The pain is said to disappear instantaneously.

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[*] Read before the Society of the Alumni of Bellevue Hospital, October 2, 1889.

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DISEASE GERMS RESTRAINED BY THE INOCULATION OF THEIR OWN POISONS.

When the germ origin of diseases was first discovered, and scientific men began to teach that the micro-organisms of disease were all about us—in the earth, in the water, in the air—many men of intelligence hesitated to adopt these teachings, because they felt that, if they contained the truth, and the whole truth, all other living beings would long ago have perished, leaving the disease germs sole possessors of the field. Conservative physicians have only recently been won over to the new medical doctrines. Their conversion to the views of scientific workers has been hastened, if not wholly caused, by the discovery of new facts concerning the nature and action of disease germs. One of these new facts is that the body has, in its own cells and fluids, agents which can ordinarily destroy, or throw off, the germs which invade it. Another is that disease germs produce their injurious effects generally, if not always, through the agency of chemical poisons which they elaborate, and that they are inert unless they can find some favorable soil in which to grow and secrete these poisons.

Another phenomenon is now being investigated—namely, the hindrance which these poisons, in very concentrated solution, present to the growth and activity of the germs, so that in a limited amount of pabulum the germs will ultimately bring their own life to an end.

These discoveries have enabled us to understand certain puzzling facts in the study of the germs of disease and the chemical changes which they produce in the fluids of the body, and have led to more definite attempts to learn the ways in which their baneful inroads may be prevented. Since it was discovered that injections of germ cultures prepared in a certain way would protect the body against subsequent inoculation with the disease germs, and, further, that the same effect was produced by sterilized cultures, investigators have sought earnestly to obtain from such cultures the chemical substances which exerted this protective influence, hoping that methods might thus be discovered by which patients inoculated in childhood could be rendered for a life-time proof against infectious diseases, or, being inoculated after exposure to infectious disease, could be protected against its assaults or enabled to repel them with ease.

This subject is considered in the British Medical Journal, in an article by Mr. Hankin, and in an editorial concerning it. Mr. Hankin was led to believe that if an albumose could be isolated from anthrax cultures, such an anthrax albumose would, if introduced into the body of animals, confer immunity against the disease. The result of his work in this direction is that he has, by ordinary chemical methods, isolated an albumose from his anthrax culture fluids which gives the ordinary reactions for albumose; and, further, that he has shown that it does confer protection against anthrax. It was obtained by treating the culture fluid with absolute alcohol, which precipitates the albumose, and then washing the precipitate with absolute alcohol to free it from ptomaines, which are soluble in alcohol. A hundred mice and about fifty rabbits were inoculated, first with a dilute solution of this albumose and then with a powerful culture of anthrax bacilli. The results of his experiments make it probable, in his opinion, that the anthrax bacillus owes its ability to live in the animal body to the excretion of a slowly formed albumose, which destroys the germ-resisting power of the body. If a large quantity of this poisonous albumose is injected, the entrance of the bacilli into the system is aided and the animal probably dies; if a very small dose is injected, the body learns to tolerate its presence, and the albumose formed by bacilli subsequently injected is no longer capable of overcoming the germ-resisting power of the body, consequently the bacilli are unable to live in the body.

Although this theory of immunity is very attractive and will perhaps be found in the end to be the true explanation of the facts already known concerning various methods of protective inoculation against disease, yet in these days of scientific investigation the careful thinker will always prefer to avoid theorizing and to rest his beliefs upon known facts, receiving no scientific statements except those which have been verified by several careful workers. One can hardly repress the hope, however, that in the truths already known concerning disease germs, and the poisons which they produce, and the resistance shown toward them in the body, we have a foretaste of future discoveries which shall lead to great and practical advances in the prevention and the treatment of infectious diseases.

A VERY RARE FORM OF GALACTOCELE.

Stoppage of a milk-duct, with consequent retention of milk in some part of the mammary gland, is not rare. The case reported by Dr. Ranson in the Transactions of the Minnesota State Medical Society for 1889 presents, however, certain peculiar features which demand for it classification as a unique case. The patient, a Scandinavian, was born with an enlarged left breast. It was oval, soft, and fluctuating, or, as the mother said, "felt as if it contained wind and water." Its size attracted general attention. The swelling lasted a year, the contents becoming gradually absorbed, leaving the breast still much larger than normal. There was no inflammation, and no fluid came from the nipple, even when pressure was applied. At puberty the right breast developed normally, becoming larger than the left, which increased a little, but remained flat and firm to the touch. This disproportion in the two breasts continued until pregnancy occurred. At about the third month of pregnancy the left breast began to increase in size and to assume a cystic character, the increase being gradual at first, but more rapid as pregnancy advanced, until in the last month it became very burdensome to carry. After delivery the nipple was so flattened and retracted that the child could not nurse from it. A breast-pump was therefore applied, and considerable quantities of milk were pumped out at different times —on one occasion as much as a quart. This method, however, failed after a time, and Dr. Ranson was called in three weeks after delivery. He found the young mother propped up in bed, her left breast, which was enormously enlarged, supported by a sling about her neck and shoulders. There was uniform fluctuation throughout the tumor. There was no discoloration of the skin, no pain, tenderness, or enlargement of the axillary glands. Pulse, respiration, and temperature were normal. The patient had had no fever or chill, and no pain in the breast since confinement. By means of a hypodermic syringe a sample of the fluid, which proved to be pure milk, was drawn off. The needle of an aspirator was then introduced, and fifty-nine fluidounces of milk were withdrawn. It contained neither blood, pus, flakes, nor sediment. It had been inclosed evidently in a single large sac, which, when thus emptied, could be felt to be entirely loose and separate, except at the nipple, from the mammary gland, which could be readily found in its normal position, entirely devoid of fat, its lacteal ducts and glandular parts being easily outlined. After aspiration, belladonna ointment and a cotton compress were applied, the breast being firmly bound with a roller bandage. Iodide of potassium was given, fluids were withheld, and the child was nursed at the right breast as seldom as possible. Aspiration was repeated four times, when the breast became fully distended again. Failing in these measures, Dr. Ranson introduced a trocar and drainage-tube. Suppuration followed, and the secretion of milk became less. The sac was irrigated with a two-per-cent. carbolic solution, and had begun to heal by granulation when the patient ceased to consult him. He afterward learned that, through the patient's neglect, fistulous openings formed, and that a surgeon had excised the lower part of the sac and quicky cured the trouble. The walls of the abscess were, when examined at a later period, firmly attached to the gland and chest walls, and a few drops of milk could be pressed from the nipple.

In Dr. Ranson's estimation, this case is rare and interesting for several reasons.

First, it was evidently a congenital trouble, beginning while the child was in the womb.

Unlike the galactocele ordinarily seen, it was due probably to a distension of the ducts and sinuses, which was so excessive as to cause rupture of their walls and the formation of permanent openings between the ducts and the space beneath the capsule of the gland, so that the secretions of the gland, when they were set up, might be poured directly into the parts beneath the capsule. It is probable, though he does not directly state this, that such an effusion occurred as a result of the normal activity of the gland in early infancy, perhaps beginning *in utero*.

When, after the long repose of youth, the gland began again to secrete during pregnancy, this effusion again occurred, distending the capsule gradually to the utmost. The secretion during gestation was unusually profuse for a primipara. The only case which he can find at all resembling this is one reported by Scarpa, in which, however, the accumulation began ten days after delivery.

MINOR PARAGRAPHS.

THROMBOSIS AND ANEURYSM OF THE VERTEBRAL ARTERIES.

In the British Medical Journal are reported two rare cases of disease of the vertebral arteries. Mr. Pope reports the case of a laborer, aged seventy-six, who lost consciousness on getting out of bed one morning; subsequently he had no affection of speech; but he walked with difficulty; the power of the left hand, arm, and leg was diminished, but not abolished; the tongue protruded in a straight line; he was unable to swallow liquids or solids, and an investigation showed an absence of the sense of taste on the left side. Death occurred twelve days after the commencement of the attack, and the necropsy revealed a thrombus of the left vertebral artery at its junction with the right—the vessel being dilated to a diameter of a quarter of an inch. The pressure of the thrombus on the roots of the glosso-pharyngeal nerve had caused loss of taste and difficulty in swallowing, the paralytic symptoms being due to a deficient blood-supply to the descending pyramidal tract. Dr. Hale White reported the case of a patient who had pain in the head and muscles of the upper part of the neck, retraction of the head, optic neuritis, paralysis of the left side of the face and of both hypoglossal nerves, hæmaturia and mitral murmur; the diagnosis of cerebro-spinal meningitis was made. The patient died in two weeks; and at the necropsy an aneurysm—due to embolus—of the size of a large pea was found on each vertebral artery, originating over and pressing upon each hypoglossal nerve. There was ulcerative endocarditis, and emboli of the retinal and renal vessels. The pressure on the hypoglossal nerves had caused the lingual paralysis; and during life the distension of the aneurysms must have caused occasional pressure on the facial nerves. Rupture of the right aneurysm had caused death.

PRIMARY ACTINOMYCOSIS OF THE LUNGS.

According to the Lancet, Dr. Lindt, of Königsberg, has reported a case of actinomycosis of the apices of both lungs from the clinic of Professor Lichtheim. The patient, a woman, had had pulmonary symptoms for several months before contracting a severe cough, which induced her to apply at the clinic. The sputa were examined for bacilli, but none were found. An abscess developed in the neck, which was supposed to be connected with the cervical vertebræ. In the course of changing the dressings of this abscess there were discovered in the pus a number of small bodies of about the size of the head of a pin, which set the diagnosis at rest. These bodies were made up of ray-fungus. It was afterward discovered that the abscess was not connected with the vertebræ, but had its relations through and among the muscles of the neck. Death took place after four months.

QUARANTINE REGULATIONS AGAINST LEPROSY.

In accordance with the provisions of the National Quarantine Act of April 29, 1878, to prevent the introduction of contagious or infectious diseases, in order to prohibit the immigration of persons affected with leprosy, the Surgeon-General of the

Marine-Hospital Service, with the approval of the President and the Secretary of the Treasury, has issued the following regulations:

"1. Until further orders, no vessel shall be admitted to entry by any officer of the customs until the master, owner, or authorized agent of the vessel shall produce a certificate from the health officer, or quarantine officer, at the port of entry, or nearest United States quarantine officer, that no person affected with leprosy was on board the said vessel when admitted to free pratique; or in case a leper was found on board such vessel, that he or she with his baggage has been removed from the vessel and detained at the quarantine station.

"2. Medical officers in command of United States quarantines are hereby instructed to detain any person affected with leprosy found on board any vessel, but such officer will permit the departure on outgoing vessels of persons detained at quarantine in pursuance of this regulation, provided such vessel shall be bound to the foreign country from which the said leper shall have last sailed."

CYSTICERCUS OF THE EYE; OPERATION.

The Vienna correspondent of the British Medical Journal states that Dr. Sattler, of Prague, recently operated for the extraction of a cysticercus from the vitreous of the right eye. The case was of a year's growth, the patient being a female aged twenty years. She admitted that she had eaten much raw meat. Only the movements of the hand could be seen at the distance of half a metre; projection was quite uncertain. The changes in the eye were opacity of the vitreous and detachment of the retina; the movements of the animal, which were very lively, could be plainly observed. The operation for extraction was by equatorial section. The eye was illuminated by the ophthalmoscope, and the instruments that were introduced into the eye were thus controlled. The retina was punctured, and the cysticercus as well as the vesicle were removed with an iris pincette. There was no reaction, but cataract supervened, due probably to injury to the lens by the instruments used for the extraction.

EPIDEMIC OF DENGUE AT SMYRNA IN 1889.

The Lancet contains the special report of seven physicians of Smyrna on the late epidemic of dengue. The extent of its prevalence is shown by its having affected four fifths of the entire population of the city, which is not far from 150,000. The committee state in round numbers the number of sick persons to have been 100,000. And the fact that the number of deaths registered as due to that disease was not more than twelve attests the mildness of the epidemic. The symptoms detailed by the report must have been very varied, and were quite distinct in several particulars from the epidemic of influenza at that same time prevailing in Europe. There were not a few cases where an eruption was present, attended by great itching, and sometimes followed by desquamation. The physicians speak of a peculiarly odorous perspiration in numerous cases. In regard to the origin of the epidemic, the report suggests several possible sources, but confesses that the profession is entirely at a loss to trace the disease satisfactorily. An epidemic prevalence of dengue occurred at Beyrut, Syria, about the same time.

THE INFLUENZA OF 1847 IN LONDON.

Dr. Samuel Wilks, of Guy's Hospital, in a letter to the Lancet (December 28, 1889), gives some interesting recollections of the influenza epidemic of 1847, which resembled closely in its clinical characters that from which we are suffering today. He specially noted the absence of catarrh of the nasal and of the ocular mucous membrane. Particularly in cases which were fatal by inflammation of the chest organs there was no initial catarrh. The fatal cases were by bronchitis, pneumonia, pleurisy, and endocarditis. The occurrence of the latter was remarkable, as there was no rheumatism to account for it. There were several cases at Guy's Hospital of sudden fatal pleurisy. In none of the cases was there any catarrh. Although the increase in mortality was very great, the percentage of deaths in those attacked was small. The whole of the medical staff at Guy's were in turn attacked, although their illness lasted only a few days, and Dr. Wilks remembers that on one occasion not a single member came to the hospital to go round the wards or to lecture, so universal was the epidemic.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 21, 1890:

DISEASES.	Week ending Jan. 14.		Week ending Jan. 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	1	0	0	0
Typhoid fever	14	9	7	1
Scarlet fever	75	8	58	9
Cerebro-spinal meningitis	2	2	1	1
Measles	60	3	70	1
Diphtheria	112	37	96	26
Varicella	4	0	5	0

Montreal Hospital for the Insane.—Dr. Thomas J. W. Burgess, formerly of the London Asylum for the Insane, has been invited to become the medical superintendent of the new Protestant Hospital for the Insane at Montreal. Dr. Burgess has had a large experience in several of the leading asylums of Ontario. The Montreal Medical Journal for January congratulates the friends of the hospital that, at the outset, there is to be placed at its head a medical man in every way highly qualified for the position.

The Bacillus of Influenza.—According to the daily press, Dr. Maximillian and Dr. Adolph Jolles, of Vienna, have succeeded in isolating and making gelatin cultivations of the bacillus of influenza. It is said to resemble Friedländer's coccus of pneumonia, and is described as "cassock-shaped and of dark-blue color."

M. Pasteur has been elected to the French Academy.

Sir William Savory.—Dr. William Scovell Savory, of London, has been made a baronet.

The late Dr. Isaac E. Taylor.—At the annual meeting of the New York County Medical Association, held January 20, 1890, the following minute, prepared by a special committee, consisting of Dr. John Shrady, Dr. A. L. Carroll, and Dr. John G. Truax, was adopted:

In the death of Isaac E. Taylor this association laments the loss of a wise counselor and untiring supporter.

While his professional attainments gave him public distinction, his private virtues endeared him to all who were admitted to his intimacy; and his associates, who knew not only his unwavering devotion to the highest interests of scientific medicine, but his unvarying benevolence of disposition and generosity of thought and deed, mourn even more for the loved friend than for the eminent physician.

[Signed.] P. Brynberg Porter, M. D.,
Recording Secretary.

Death of Professor Botkin.—The distinguished Russian surgeon, Dr. Botkin, died at Mentone, France, December 24th, from hepatic disease, with impaction of gall-stones. He was fifty-eight years of age. He had been physician to the Czar and the imperial family, and professor of clinical medicine in the Military Academy of St. Petersburg. His contributions on pathology and military hygiene have been quoted from time to time during the past fifteen years, so that he was one of the best known, to English-speaking people, of the Russian medical fraternity.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 12, 1890, to January 18, 1890:*

De Witt, Calvin, Major and Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 146, December 21, 1889, Department of Dakota, is extended to include February 27, 1890. Par. 5, S. O. 12, Headquarters of the Army, A. G. O., January 15, 1890.

Black, Charles S., Captain and Assistant Surgeon. The leave of absence for seven days granted by the commanding officer, Fort Du Chesne, Utah, is hereby extended twenty-three days, with permission to apply to the Adjutant-General of the Army for an extension of three months. Par. 3, S. O. 1, Department of the Platte, January 1, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending January 18, 1890:*

Scott, H. B., Passed Assistant Surgeon. Granted extension of sick leave for one year from February 1st.

Woods, George W., Medical Inspector. Transferred from Mare Island Navy Yard to the U. S. Steamer Charleston.

Derr, Ezra, Surgeon. Detached from the U. S. Steamer Nipsic and ordered home.

Dickinson, Dwight, Surgeon. Transferred from Mare Island Hospital to the Yard.

Baldwin, L. B., Passed Assistant Surgeon. Ordered to the U. S. Steamer Michigan.

Cordeiro, F. J. B., Passed Assistant Surgeon. Transferred from Hospital, Mare Island, to the Nipsic.

Edgar, J. M., Passed Assistant Surgeon. Transferred from the U. S. Steamer Michigan to the Naval Hospital, Mare Island, Cal.

Bailey, T. B., Assistant Surgeon. Transferred from the U. S. Steamer Dale to the U. S. Steamer St. Louis.

Society Meetings for the Coming Week:

Monday, *January 27th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *January 28th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Societies of the Counties of Onondaga (semi-annual—Syracuse) and Putnam (semi-annual), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *January 29th:* Auburn, N. Y., City Medical Association; Berkshire (Pittsfield) and Middlesex North (Lowell), Mass., District Medical Societies; Gloucester (quarterly), N. J., County Medical Society.

Saturday, *February 1st:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Obituaries.

Edward Leicester Plunkett, M. D.—Dr. Plunkett's death from pneumonia on the 10th inst. removes a bright light from among the younger physicians. He was born in Pittsfield, Mass., in 1856. At the age of twenty-three, while a student in Lafayette College, he became totally blind after an attack of purulent conjunctivitis. For a year he seemed stunned by his misfortune. Realizing then the necessity for mental activity, he chose the study of medicine. His mother, a lady of rare ability, gave her entire time to his service and devoted herself to him to a degree seldom if ever equaled, preparing herself to instruct him thoroughly in the studies he afterward pursued. His other senses, particularly those of touch and hearing, became developed to a remarkable degree. Difficulties seemed only to stimulate him to greater effort, and each in turn was overcome. He graduated from the College of Physicians and Surgeons in New York in 1885, and was chosen vice-president of his class. After another year of unremitting labor he commenced "quizzing," and from the first was successful. He would tolerate no poor or superficial work, but demanded the same quality he gave, which was the best. Cut down on the threshold of his career, the results he looked forward to were not all attained, but he demonstrated during his short life what might be accomplished by patient perseverance and conscientious labor under difficulties which to many would seem insuperable.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of December 26, 1889.

Dr. Joseph E. Janvrin in the Chair.

New Operation for Displacement of the Uterus.—Dr. A. P. Dudley narrated the history of a case in which he had operated for the permanent cure of displacement of the uterus. The diagnosis had been that of marked retroflexion with fixation to one side. No mention of a dangerous operation had been made to the patient. It had been the speaker's opinion all along that fastening the uterus to the abdominal wall in any way was the changing of one pathological condition for another. He did not believe it would remain fastened long. He had reopened the abdomen in two cases after the removal of the ovaries and tubes, and had found the uterus free in the abdomen. He had examined the broad ligaments carefully in these cases, and in one had found the ligature smooth and encapsulated. He had been working to get at some method by which he could fix a retroverted, or retroflexed, flabby uterus without fastening it to the abdominal wall, as he regarded that procedure opposed to anatomical principles.

The speaker then described the steps of his operation by means of a diagram. It consisted in freshening a portion of the anterior surface of the uterus to within about three quarters of an inch of the bladder junction; then, after dissecting out the round ligaments and removing a portion of the peritonæum from each one, he sutured these to the freshened portions on the anterior surface of the uterus by means of over-and-over catgut sutures about one quarter of an inch apart. Care was taken to leave no raw surfaces. The uterus was thus maintained in its normal position and there was no interference with the bladder. It had been suggested that he should put a pessary in the vagina to overcome the traction, but this he had refrained from doing, wishing the operation to rest upon its merits. A mural abscess developed and the patient had some fever for a few days. No peritonitis supervened, and the immediate results of the operation had given no trouble. The uterus had so far maintained its position. He thought the advantages appeared manifold. The uterus was straightened, the round ligaments were shortened, and there was no liability to the formation of adhesions or of pockets which might involve the intestines. The freshened surfaces gave perfect union between the round ligaments and the uterus. The faults in other well-known methods were, he thought, that the sutures would cut through from any slight strain, and the limited number of punctures did not afford a sufficient amount of exudate, such as resulted from a freshened surface. He hoped to be able to produce his patient before the society. He had found some cysts of the ovary which were tapped, and she had since been free from pain in that direction and had experienced no bladder irritation.

Dr. E. H. Grandin said that he considered Dr. Dudley's operation, so far as he could follow it, a clever one. He feared, however, that it would not ultimately fulfill its aim any better than others which had been devised. When subjected to the various influences of change common to the uterus, the adhesions would stretch. He had seen cases in which the uterus had gone back to its former malposition. He had known this to occur in Alexander's operation. The round ligaments stretched, and he believed this would happen in Dr. Dudley's case. He personally favored the operation of hysterorrhaphy and the passing of sutures through the peritonæum and not entirely through the abdominal wall.

The Chairman thought it was possible that some retroflexion might occur above the point at which the round ligaments were attached to the surface of the uterus; that the upper two thirds of the body of the uterus might become retroflexed and cause trouble, the line of attachment being changed by the operation from its original position.

Dr. Dudley replied that the portion of the uterus above the bladder junction was usually not more than three inches, and an inch and a third of round ligament was firmly stitched to this surface. When the uterus became enlarged from any cause he thought it was more likely to give way after Alexander's operation than in any operation where the round ligaments were shortened. He thought his method offered advantages over any form of operation which fastened the uterus to the abdominal wall, where the adhesions were liable to give way from muscular action, the weight of the intestines, or during efforts in labor.

Subsequent Behavior of Cases of Extra-uterine Pregnancy treated by Electricity.—A paper with this title was read by Dr. A. Brothers. In the American Journal of Obstetrics and Diseases of Women and Children, of last year, the reader had reported a case of extra-uterine pregnancy successfully treated by electricity. He had also prepared a *résumé* of forty-three cases which had been gathered from various sources in medical literature. Since that article was published ten more cases had been reported. The reader had, in order to more accurately determine the subsequent behavior of cases reported cured under the electrical treatment, opened a correspondence with the gentlemen who had used this method themselves or had known cases in which it had been used. He had requested answers to the following questions: 1. "What secondary dangers have your patients undergone as a result of the treatment?" 2. "What is the present degree of health of your patients, or what was it when last seen?" The speaker was enabled, from the answers to his inquiries and from published reports, to give a tabulated statement of fifty cases of extra-uterine pregnancy treated with electricity. Of these fifty cases, the speaker had not traced the further progress of the last eleven cases, because these were reported during the last year, and the subsequent history of those cases which had been treated at least several years previously were of more importance. A list was then given which showed the subsequent behavior of twenty-five cases, observed for periods varying between one and eight years after the employment of electricity. These patients were reported cured, and when last seen they were all enjoying good health. Many of them still carried traces of the old trouble, and, while it would not be wise to assert that these small masses could not in the course of time give rise to symptoms, as far as the speaker had been able to discover, up to the present time they had caused no inconvenience. The speaker gave the recent views of the men who had employed this method from its first inception, and who, as consultants, had seen the greatest number of cases treated. Dr. T. G. Thomas had treated fourteen cases of extra-uterine pregnancy by electricity. All the women had recovered. In one case only had the dead fœtal mass given trouble, and in that case all bad symptoms had in time passed off and no operative procedure had become necessary. Dr. Thomas Addis Emmet had also seen a great many of the cases reported. He had written: "I have seen in consultation the greater portion of the cases of extra-uterine pregnancy which have been treated by electricity in New York, beginning with the first case, and I do not know of a single instance where the result has been other than entirely satisfactory." Dr. A. D. Rockwell had seen quite a number of the cases and had made the electrical applications. In the thirteen cases he had treated, in no instance had there been any unfavorable symptoms due to the electricity. So far as Dr. Rockwell knew, the subsequent condition of the health of all the patients had been good. Whether electricity was to hold its place in the treatment of extra-uterine pregnancy or not would depend on the stand taken by the American profession, for in Europe it had hardly received the barest recognition. In this connection the speaker quoted the following passage from an article by Dr. Malcolm McLean: "To show by a single example the baneful force of a one-sided view of surgical matters of vital importance, we have only to refer to a recent meeting of eminent obstetricians and gynæcologists from various nations assembled in this hall. The subject of extra-uterine pregnancy was under discussion, and Professor Martin, of Berlin, whose opinions are justly held in high estimation, asserted that it was his practice to perform laparotomy in every case. Notwithstanding the unparalleled records of the American method of treatment by electricity, not a voice of dissent was raised, I believe, in all that assembly. Certainly, no adequate rebuke to such a wholesale dismissal of our claims for electricity was offered. And who can tell the far-reaching influence of such teaching? Shortly after, a primary operation case of extra-uterine pregnancy was presented by one of our number, and with loud denunciations he spurned as triflers and ignoramuses those who presumed to claim that electricity ought to have even a trial on its merits." The speaker, from a careful study of the facts which he had presented, believed he was justified in drawing the following conclusions in regard to the use of electricity in extra-uterine pregnancy: 1. The risk of rupturing the sac of an extra-uterine pregnancy and causing death by internal hæmorrhage was slight. In but one case had this possibly occurred, but the reporter himself thought that the damage existed prior to the employment of the electricity. 2. Suppuration of the dead fœtal mass had not occurred in any case in which electricity was employed before the third month. 3. Beyond the third or possibly the fourth month electricity should not be resorted to. 4. Electro-puncture was to be condemned in all cases. 5. In cases of mistaken diagnosis no harm was done by the electrical treatment. 6. Under galvanism or faradism the early extra-uterine ovum could be checked in its growth and caused to disappear entirely or to become shriveled up. These remaining masses had thus far caused no subsequent trouble.

Dr. Grandin considered the paper one of the most valuable contributions to the subject which had appeared for a long time. For the first time they had presented before them a collection of facts. They were told of twenty-five cases, covering a period of eight years, in which the patients had been successfully treated by electricity; and all of whom were living without having been mutilated. Comparing this result with those of laparotomies for a similar condition, which in this city alone had resulted in two miscarriages and one death, he thought they had reason to be proud of what might be called the American treatment of extra-uterine pregnancy. Prior to the third month of gestation, and in the absence of the symptoms of rupture, he had always held that the treatment should be by electricity. He had in two cases put his belief into practice and had found that the ovum had been killed and that the ovum so destroyed had given rise to no trouble.

Dr. Currier said that men were usually actuated by experience or prejudice. Whatever conclusions he had arrived at might not be the result of extensive experience on the subject, because that was confined to one case in which the pregnancy was not demonstrated until the post-mortem was made. In another case he had acted according to his convictions and had performed laparotomy and the patient had died. He thought, however, that a sufficient number of cases had been recorded in which laparotomy had been performed successfully, and that one need not entirely pin his faith to what had been said that evening. He thought that the facts stated did not prove absolutely that many of the cases brought forward were really cases of extra-uterine pregnancy. While he did not wish to reflect on those who had made the diagnoses, still there seemed to be wanting a link in the chain of evidence. The fact that the patients had since undergone normal pregnancy and had been delivered in a normal way, was rather an argument against extra-uterine gestation. He thought, however, that the position taken was, on the whole, a very fair one, and that prior to the first three months the electrical treatment should be used. He thought that those who held opinions in favor of laparotomy were entitled to recognition, and said that if he had made a diagnosis of extra-uterine pregnancy which was sufficiently tangible he should not hesitate to advise laparotomy.

The Chairman said he believed that to himself was attributed the recommendation of primary laparotomy for the removal of the fœtus before rupture of the tube had taken place in supposed tubal pregnancy. In the case to which he referred the patient had died, after four applications of galvanism, at the end of the ninth week of pregnancy. He had made a diagnosis three weeks prior to that time. Ten days before death the patient had had slight hæmorrhage and collapse from rupture. He had watched the case very carefully, knowing that the mischief had been very slight, and had presumed that the surfaces had completely healed. He did not believe that the galvanism had anything to do with the second hæmorrhage, which occurred after the fourth application, the patient dying in a few minutes. In all cases presenting symptoms of impending hæmorrhage he would, instead of employing electricity in any form, resort to laparotomy, applying to that operation the term primary operation. He was perfectly willing to accept, and indeed had always accepted, the statements of those who had used electricity, and had also seen it successfully employed. He fully believed that the diagnosis in most of the cases had been correctly made. As to the statement that the use of electricity gave rise to no subsequent trouble, he recalled a case reported by a physician in Buffalo in which, after the use of galvanism, abscesses had supervened, which had continued to discharge for a long time. The patient had eventually recovered, but the case went to show that trouble might ensue.

Dr. Brothers thought that the method of treatment by electricity had not been gaining in favor as rapidly as it deserved. He deplored the tendency to operate immediately in all cases, and maintained that if electricity offered any prospect of cure it should be utilized.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN SURGERY.

Meeting of December 6, 1889.

The President, Mr. Meldon, in the Chair.

Compound Dislocations of the Ankle.—Mr. Croly read a paper on this subject, illustrated by three very interesting cases, the first occurring in a farmer whose right foot was caught in a mowing machine, causing compound dislocation of the tibia and fibula forward on the dorsum of the foot; the tendons on the front of the ankle were injured, the entire front of the joint being laid open. The speaker was telegraphed for to amputate the limb, but decided, on consultation with his father, to endeavor to save the foot. The dislocation was reduced under an anæsthetic, the wound dressed antiseptically; free incisions were made subsequently to relieve tension, and the patient recovered with a very useful foot, and walked as well as ever at the end of a year.

The second case occurred in a coal porter, in May, 1888. The man was of very intemperate habits, and a very bad subject for any accident. The dislocation was caused by his foot having been caught between the shaft of a coal dray and the horse's shoulder (the horse having fallen as he was being led up a hill). On the patient's admission into the City of Dublin Hospital, three inches of the lower extremity of the right tibia was observed protruding through the soft parts; the lower end of the fibula was comminuted, and the foot forcibly everted. Ether having been administered and the parts washed with an antiseptic lotion, the limb was flexed and reduction effected. A large drainage-tube was passed through the joint, and antiseptic dressings applied. Jointable splints were applied to the limb in the flexed position. The limb became enormously swollen the day after the accident, and bullæ appeared. Numerous free incisions were made to relieve tension. Opiates and bromides were administered to quiet the nervous system. Six months subsequently the articulating end of the tibia, with about an inch of the shaft fractured obliquely, was removed, after which the wound healed. Several portions of the fibula were removed through an opening on the outer side of the joint, and the patient recovered with a very firm foot.

The third case occurred in a man, aged twenty-eight, who fell from a rick of straw and received a compound dislocation of the tibia and fibula outward. On his admission to City of Dublin Hospital, on Sunday morning at 4 A. M., reduction was effected, the wound having been enlarged. The patient, who was a man of most abstemious habits, having never tasted whisky, made a very rapid recovery. In three months he walked up and down the ward before the class, and his foot was now as useful as the other, and not in the slightest degree lame. The cases were of great practical interest, and bore out the teaching of Sir A. Cooper, "that amputation should not be performed in compound luxations of the ankle joint."

Mr. Myles attributed Mr. Croly's success in the cases in question to his great experience, and the care which he bestowed upon them, rather than to the particular treatment adopted, and therefore he contended that those cases did not afford a sufficient basis upon which to advocate that treatment, and still less to dogmatize in distinguishing between cases which should be simply reduced, or resected, or which would demand amputation. As pointed out in Erichsen's text-book, a great deal must depend on the nature of the injury, the warmth of the limb, and the patient's condition.

Mr. Barton did not think that Mr. Croly dogmatized beyond laying down as a general rule, with which he concurred, that an attempt should be made to save the limb in cases of compound luxation of the ankle joint. Those accidents, the most serious in surgery, were test cases of the power of antiseptic treatment, and therefore he desired to learn whether or not the antiseptic method had been carried out in detail and with the utmost care. He relied on free incision opening into the joint to give an opportunity for making the antiseptic washing of it complete.

Mr. Newell mentioned a case which he was watching in the Meath Hospital, and the treatment of which was precisely similar to that advocated by Mr. Croly. There was fracture of the fibula and dislocation inward of the tibia, added to which tetanus set in some days after the decision was arrived at not to amputate. The man was now well both of the injury to the ankle and of the tetanus.

Mr. Tobin asked whether Mr. Croly had found tenotomy of the tendo Achillis necessary, such being his own experience more than once.

The President said they treated all such cases in Jervis Street Hospital antiseptically, and they would not dream of amputating in an ordinary case of compound luxation.

Mr. Croly replied that he had given forty-four recorded cases without death on the authority of Sir Astley Cooper, and those cases had been before the days of antiseptic surgery. Injuries to the ankle joint were not favorable to primary amputation, and therefore students should be cautioned not to rush for an amputation knife in cases of compound dislocation of the ankle. In the cases which he had described he enlarged the wound to give room for drainage, and antiseptic surgery was carried out in its integrity. He considered that if the tibia and fibula got dirty, the case was one for resection, but if not it was one for reduction. Tenotomy of the tendo Achillis was not necessary. It was a suggestion by Campbell de Morgan, and was injurious, as weakening the back of the leg by taking away needful support. He was glad the president had indorsed the opinion that preservative surgery of the foot ought to be kept in view in compound dislocations, leaving it to the surgeon's discretion to determine the cases in which he should amputate.

A Case of Battey's Operation.—Mr. J. K. Barton read a paper on a case of Battey's operation. Hysteria complicated surgical diseases in a way calculated to mislead the surgeon in either of two ways: 1. Reflex phenomena due to hysteria might render the case apparently more dangerous than it really was, and thus induce the surgeon to recommend a serious or dangerous operation, which was not really necessary; or, 2, the very opposite effect might follow. He might too hastily conclude that the whole of the symptoms were so exaggerated by hysteria that the case might safely be treated by valerian and cold water, and its serious surgical aspect ignored. The following case illustrated these difficulties, as well as the success of the operation, in restoring a girl from the condition of a hopeless invalid to a life of activity:

Case.—Mary M., a maid of all work, aged twenty-six, had suffered for a year from severe pain in the abdomen, which was greatly swollen and tympanitic. Reflex vomiting was so severe as to require nutrient enemata for six weeks. The diagnosis was "inflammatory disease in the left ovary"; and all remedies, after a protracted trial, having failed to give relief, Battey's operation was decided upon, the patient being made acquainted with its character. It was performed in February, 1889. Both ovaries and Falloppian tubes were ligatured and removed; both were hard, white, and about three times their normal size. The patient recovered from the operation without a bad symptom. In a month she was up, and in two she had left the hospital and returned to earn her own living. When seen lately she presented a remarkable contrast to the condition in which she was for six weeks previous to the operation, being healthy, vigorous, and cheerful.

Mr. O'Callaghan said the operation described by Mr. Barton was not Battey's, but Mr. Lawson Tait's. Battey had simply removed the ovaries, but Tait removed the ovaries and appendages. Hence he asked whether or not Mr. Barton had had any skilled gynæcologist's opinion on the case. It seemed to him to be a typical case where the general surgeon had trespassed on the domain of the gynæcologist. The case was one of retroflexion and prolapsed ovary. As to chronic inflammation, from the history of the case there was not a symptom of it. Had there been any, there should have been considerable adhesions, with hysterical and almost maniacal symptoms. So far as he could judge, Mr. Barton's case had not been successful.

Dr. Frederick Kidd did not gather from the paper that there had been any examination *per vaginam.* In his opinion, any appreciable enlargement of the ovary could be discovered by a manual examination. All the pain seemed to be developed on the left side, and yet the right ovary was more affected than the left. He asked how was it that there were none of the subjective symptoms on the right?

Mr. Myles said gynæcologists regarded the abdominal cavity as their own exclusive fertile pasture, but, in his opinion, it was equally competent to the ordinary surgeon of moderate experience and skill to open the abdomen of a male or a female. When Mr. O'Callaghan, in his violent criticism, complained that the gynæcological area had been unjustifiably intruded upon, he asked what that gentleman meant by a prolapsed ovary, and where was it prolapsed to, and what did it do when it got there? During his experience in the anatomical schools he had never seen an ovary that did not lie as low as possible in the bottom of the pelvis. However, regarding the operation itself, were they to assume that every young woman who suffered from hysterical symptoms was to be deprived of the power of reproducing her species? To destroy the highest physiological functions of a woman was an operation that should not be lightly undertaken. He asked if Mr. Barton had impressed upon the girl, who was in the prime of life, when her ovaries were most active, what the result must be.

Mr. Thornley Stoker said Mr. Barton had not impressed upon his mind that the case was one of such extreme gravity as would justify the operation, which would be warranted only if her condition was such that life was either threatened or had become intolerable by suffering.

Dr. Patteson regarded the diagnosis as inadequate to indicate operative procedure, the left ovary being the seat of all the symptoms, though the right proved to be more enlarged and more diseased. But there was no adhesion, or only such slight evidence of inflammation that the operation might have been postponed. The microscopical appearances did not point to chronic inflammation of the ovary, if there was any, because he had yet to learn that a few dilated vessels and scattered groups of leucocytes evidenced the pathological changes that would occur in chronic inflammation.

The President said that, the woman being in great pain and her life in imminent danger, the operation was simply done to save her life; and under such circumstances, where the woman could not have lived, there were few hospital surgeons who would hesitate to remove both ovaries.

Mr. Barton replied that he blamed himself to some extent for the adverse criticism in not having made clear the fact that, in the opinion of his colleagues and himself, the girl was dying of long-continued disease—disease producing constant vomiting, extreme exhaustion, and intolerable suffering, so lowering that she must soon have passed into a condition practically incurable. The serious character of the operation he did not at all blink, nor did he suggest or think that it should be lightly undertaken. So far as could be done, he had explained the nature of the operation to the patient, and she had deliberately assented to it. Moreover, having regard to the doctrine of the survival of the fittest, her physical condition was such that it would be detrimental to the community if her breed were propagated. He disagreed with Dr. O'Callaghan's view that a general surgeon should not intrude into the obstetrical domain, or that there should be such an artificial barrier in surgical science that where disease developed in the rectum it was a case for the general surgeon, but at the other side of the septum of the vagina it was a case for the obstetrician. Indeed, he maintained that an experienced surgeon skilled in manual operations was more fitted to carry out such an operation successfully than a gentleman trained in gynæcological science without practical experience of operative surgery. But in this case he had had the benefit of Dr. Purefoy's opinion that there was no retroflexion of the uterus. Before he operated he had had every reason to believe that there was inflammation, and the sequel showed he was right, as Dr. Bewley's report demonstrated—even that there was chronic inflammatory action. He was gratified to say that the case was more successful than some of his critics seemed to think. From being reduced to the last stage of emaciation, suffering constant pain, and being bed-ridden, as she was at the time of the operation, the girl was now, as the result of the operation, restored to health and strength, capable of performing the functions of a domestic servant, as she had been doing for months, without any hysterical nonsense about her, and with a fair prospect before her, though she would have to forego married happiness.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN MEDICINE.

Meeting of December 13, 1889.

Dr. James Little in the Chair.

Extra-pleural Abscess simulating Empyema.—Dr. Walter Smith related the case of a gentleman, aged thirty years, who consulted him October 20, 1888, for a severe pain in the right side, attended with pyrexia and general ill-health. The pain had suddenly set in six weeks previously. The physical signs seemed to indicate a right pleural effusion, and there was marked tenderness along the eighth and ninth ribs. Pus was detected by hypodermic puncture, and when the abscess was opened about a pint of fœtid, sanious pus escaped, and necrosis of the rib was found to exist. Notwithstanding free drainage and careful dressings, the foul discharge persisted, the abscess cavity extended downward, hectic fever was established, and the patient sank at the end of three months. The post-mortem examination disclosed an enormous gangrenous cavity in the wall of the thorax, fragments of several necrosed ribs from the seventh rib downward projecting externally. Right lung partially adherent; no fluid in either pleural sac. Heart and pericardium healthy. The abscess had further destroyed the right half of the diaphragm, and had extended downward in the abdominal wall to a considerable distance. Its cavity was bounded by the pleura above, in front by the abdominal skin, and posteriorly by the liver, colon, and right rectus abdominis muscle, which was black and soft. The colon was adherent to the liver. The abdominal viscera were healthy, and there was no diffuse peritonitis.

The Chairman said he had, at the instance of Dr. Smith, seen the case in question at an early period of the patient's illness. The structure over one of the ribs was slightly swollen, and, there being very distinct tenderness on pressure, he concluded that there was disease of the rib itself—disease perhaps of only one rib then. He doubted that the diagnosis could have been more precise and accurate than Dr. Smith had made.

Dr. John William Moore desired more information as to the distribution of the dullness on percussion over the right side of the chest, because in the text-books there was a distinction drawn between the arched dullness on percussion, due to the liver being displaced upward, and the very horizontal line caused by any form of fluid effusion into the pleura. Dr. Smith had not indicated whether the dullness on percussion changed with the position of the patient—a circumstance which was a recognized factor in the diagnosis of intrapleural effusion. The free evacuation given to the contents of the fœtid abscess by the drainage-tube might account for the intact nature of the skin. It was only when there was pressure that the skin began to undergo inflammation, shown by the œdema and discoloration.

Dr. R. A. Hayes remarked that, though in ordinary cases of pleurisy with effusion the line of dullness was to some extent horizontal, yet in those of people lying for some time in bed, after the occurrence of the pleuritis, a certain amount of adhesion took place round the edges of the pleura, and the fluid became encysted, so that the position did not afford much assistance in diagnosis, but, on the contrary, was rather illusory.

The Chairman considered it would have been worth while to take the three ribs away, having regard to the good results which he had himself several times observed from the removal of ribs in empyema; but, of course, he could only say now, in the light of the post-mortem examination, what might have been done.

Dr. Smith, in reply, said that the dullness extended posteriorly to the level of the angle of the scapula and anteriorly to that of the lower border of the fifth rib. He regretted that the bolder course had not been adopted, not because it would certainly have saved the patient's life, but it might have afforded a better chance of recovery. Two reasons had deterred him from taking that course—namely, uncertainty as to the seat of the abscess, and the fear arising from the fœtid, gangrenous nature of the discharge, that any excision of the ribs would be a certain avenue to septicæmia.

Case of Empyema treated by the Radical Method.—Dr. Hayes read notes of a case of empyema treated by radical method. The patient, who had been shown at the last meeting of this Section, was a constabulary recruit, and the speaker mentioned the comparative frequency with which large effusions occurred in these men, often coming on without pain or other usual symptoms. The case recorded was suspected to be tubercular, there being severe hectic and wasting, but no tubercular bacilli could be detected in the sputum. The fluid had remained serous for three months, and then became purulent. When a free incision was made by Mr. Hamilton the patient at once improved, lost his fever, gained weight, and was now quite convalescent.

Fleet-Surgeon ffrench Mullen said, as to the frequency of pleuritic effusions in Irish constabulary recruits, he had not found any undue proportion in recruits in the navy and the Royal Marines, of whom he had had an extensive experience, and yet the training which they must undergo was at least as severe as that of the constabulary recruits. No doubt it might be that the extensive motions to develop the chest muscles might have some effect in generating the disease. He asked why Dr. Hayes did not tap his case while in the first stage of pleuritic effusion, instead of waiting till it had taken on suppuration. Where he found ordinary medical treatment fail, and the case became in a measure chronic, he aspirated with considerable success. It was not necessary to make more than one opening. He had found an oakum pad useful.

Mr. F. T. **Heuston** said that in a great number of cases of empyema he did not consider an incision necessary, but in those in which it was necessary it was of prime importance that the proper place should be selected. Many of the text-books indicated the fifth or sixth intercostal space, mid-axillary line or thereabouts, as the proper position; but, in his opinion, that was bad surgery, as free drainage would be impossible. The patient would not lie on the wounded side, and there would remain below the wound a cavity in which pus would collect and probably decompose. He preferred to make the incision in the scapular line or posterior to it, as low down as possible, selecting the eighth intercostal, but keeping above the diaphragmatic attachment to the ribs, this being the most dependent position and allowing the most satisfactory drainage. Next in importance to the place of incision was the necessity of having free drainage for a lengthened period. He agreed with Dr. Hayes in thinking that irrigation should be only used when necessary, instead of as a regular means of treatment; but he did not find a solution of carbolic acid, which Dr. Hayes used, the best for the purpose. He had tried and he preferred permanganate of potassium or a solution of boric acid. The question of removal of ribs depended on the particular case. If the lung was collapsed in chronic cases and would not expand, and the pus had been there for a lengthened period, he did not see how the cavity would close unless the chest was allowed to collapse by the removal of one or more of the ribs.

Dr. A. W. **Foot** suggested that the case was one of empyema from conversion, and that repeated examinations with the hypodermic syringe had turned what was a serous effusion into a purulent one. Unless the syringe was made aseptic it would be difficult to show that that was not the result, coupled with the admission of air. In the treatment of pleural effusion he had been taught that the patient should be allowed to be on the verge of death before resorting to a surgical operation. What he did in such cases was to draw off the pus with an aspirator, wash out the pleura, using a warm solution of iodine, but never anything else, unless fœtor arose as the indication for special treatment. The cases of excision of the ribs he had seen had generally proved fatal by pyæmia.

Dr. **Patteson** thought there was too great a tendency on the part of surgeons to rush in and open the pleural cavity with a knife and stick in a drainage-tube as big as his thumb. One of the largest cases of pleural effusion he had seen was cured by a single aspiration. As regards the necessity of removing the ribs, a great many patients got well after drainage without such a course, but a great many others did not get well. The healing took place by the union or adhesion of two granulating surfaces. Surgical interference was no doubt beneficial in those cases where the lung had undergone such serious changes as to be incapable of expanding.

Dr. **Smith** concurred in Dr. Patteson's view of the pathology of healing. It was only comparatively recently that reasonable views of treatment prevailed. Billroth, one of the best authorities in Europe, had recorded a series of cases which he had treated, and the result of his experience was unfavorable to the radical cure. The empyema cavity had three sides, and it was impossible to close it except these met either by the expansion of the lung, or by the falling in of the chest, or by the rising of the diaphragm. There must always be a large margin of unsuccessful cases of empyema. It should be remembered that the first who taught the profession to deal differently with those cases was not a surgeon but a physician—the celebrated Dr. Trousseau, of Paris, who popularized paracentesis of the chest. Simple aspiration would cure a small proportion of cases of purulent collection in the pleura, and it was not a waste of time, therefore, to aspirate before proceeding to the so-called radical method.

Dr. **Doyle** believed that one of the most important physical signs in the recognition of pleuritic effusion was the tactile sensation by the finger on percussion. In his own cases he always took antiseptic precautions when "tapping" the chest.

The **Chairman** entertained no doubt that under the new method there were more recoveries than under the old, and that the additional surgical means of rescuing patients from death, immediate or remote, placed the physician in a better position than ever. The difficulty was to hit the proper medium —neither to be too timid on the one hand nor too rash and eager on the other. Without expressing any opinion on the truth of Dr. Foot's criticism as to the possibility of the punctures converting the serous into purulent effusion, nobody could be too cautious in introducing even a small needle of a syringe into the pleural sac. He never did so himself without heating the needle in a spirit lamp and afterward anointing it with carbolic oil, and he always used a fresh needle. It was not desirable to introduce a needle into the chest more frequently than could be avoided; but he had to reproach himself more for abstaining rather than using it too frequently, as he believed that with proper precautions it could be used without danger.

Dr. **Hayes**, replying, said that he always employed tapping where he considered it would be sufficient, and he was scrupulously careful about the condition of the aspirator and of the needle in making diagnostic punctures. But he drew the line at the scalpel, and felt it right, where it came to the use of the knife, to call in an operating surgeon. His action in connection with the case in question had nothing to do with producing the purulent effusion. As regards the naval and marine recruits being more impervious to the disease than constabulary, perhaps the explanation was that the naval recruits were drawn more from the tougher toilers of the towns. He did not tap in the early stage of the case, the effusion was so small, and the fluid, being considerably diffused, was not causing pressure on the liver so as to call for surgical interference. Save in an exceptional case, he never found it necessary to make more than one opening. He agreed with Mr. Heuston's excellent remark that the incision should be made as far back and low down as possible. Mr. Heuston, Dr. Smith, and Dr. Patteson were rightly agreed as to the method by which the cavities healed up and became obliterated. Where healing would be assisted by excision of the rib it ought to be done to promote rapid cure. In one of the largest cases which he had tapped the pus had never again appeared, and the patient recovered; but, on the other hand, over and over again he tapped purulent effusions with disappointment—he had ultimately to adopt the radical treatment.

Book Notices.

The Treatment of Internal Derangements of the Knee Joint by Operation. By Herbert William Allingham, F. R. C. S., Surgeon to the Great Northern Central Hospital, etc. London: J. & A. Churchill, 1889. Pp. viii–165.

Within the past few years the subject of internal derangements of the knee joint has received much attention at the hands of surgeons, and this volume is a record of the author's own experience, together with that of other English surgeons, in the operative treatment of this very painful and troublesome affection. In the first chapter the anatomy of the external and internal semilunar cartilages is considered, as they are most generally recognized as the cause of the trouble; the pathological conditions found within the joint, the causes of these displacements, and the general symptoms and diagnoses of each variety are enlarged upon.

From a study of the twenty-four cases forming the basis of the pathological portion of this chapter he draws the following deductions: 1. The internal or external semilunar cartilages may be torn away from their (*a*) anterior attachment, (*b*) posterior attachment, (*c*) coronary ligaments, (*d*) coronary ligaments and anterior attachment, (*e*) coronary ligaments and posterior attachment. 2. All or some of the attachments of the semilunar cartilages may have been stretched or partially ruptured. . . . 3. Split cartilages, the cartilage being split in the middle, or separated into ribbons. In the second chapter the treatment of the conditions described in the first is considered both as to acute and chronic cases. In regard to the former, rules are laid down for the various movements and manipulations in the reduction of the various displacements; but it is to the chronic class that most space is devoted. In most cases he strongly recommends an operation. He does not think an operation justifiable when there is any synovitis, and in all cases he advises that the patient should spend a few days in bed prior to the operation. For anatomical and surgical reasons he opens the joint by "an incision in the parallel axis of the leg, and on a level with the middle of the patella, and extending it down to about an inch below the head of the tibia. This incision should be three quarters of an inch from the border of the patella." The anatomical reason is that, in entering the joint at the point named, no muscular tissue is divided and not much fat is encountered. By a transverse incision on a level of the affected cartilage, much fat is found before the synovial membrane is reached, and the joint can not be as easily examined. One of the surgical reasons is that the synovial membrane can be easily picked up and included in the sutures which pass from the skin through the synovial membrane, thus bringing the two surfaces of the membrane into apposition, as in the suturing of abdominal sections. In Chapter III, "cases in which the semilumar cartilages have been operated upon" are recorded in detail—first, those in which the cartilages, or portions of them, have been removed; secondly, those cases in which they have been sutured to the head of the tibia. Of these two classes there are twenty-one cases, and they have all terminated in a highly satisfactory manner, although various modes of operating were adopted in many of them. In Chapter IV the author states that he enters upon ground which has been hitherto untrodden, for nowhere in the literature of the knee joint has he been able to find any cases bearing upon the ligamenta alaria as the cause of internal derangements of the knee joint. After drawing attention to the anatomy of these parts, he records two cases in which an enlarged or detached ligamentum alare was the cause of the inability of the patients to use their limbs, and the removal or suturing of this ligament restored such limbs to their former usefulness. Chapter V is devoted to loose cartilages, pedunculated cartilages, and to villous or hypertrophied fringes, and Chapter VI to hydrops articuli. The volume which we have now so briefly noticed is a valuable contribution to a hitherto little understood subject. It is practical, well written, and well illustrated, and Mr. Allingham has placed the profession under great obligations for his contributions to this very important and interesting subject.

BOOKS AND PAMPHLETS RECEIVED.

Insomnia and its Therapeutics. By A. W. Macfarlane, M. D., Fellow of the Royal College of Physicians, Edinburgh; Fellow of the Royal Medical and Chirurgical Society of London, etc. London: H. K. Lewis, 1890. Pp. xv–366.

The Refraction of the Eye. A Manual for Students. By Gustavus Hartridge, F. R. C. S., Consulting Ophthalmic Surgeon to St. Bartholomew's Hospital, Chatham, etc. With Ninety-eight Illustrations. Fourth Edition. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xv–249.

Traité des maladies du testicule et de ses annexes. Par Ch. Monod, professeur agrégé à la Faculté de médecine de Paris, etc., et O. Terrillon, professeur agrégé à la Faculté de médecine de Paris, etc. Avec 92 figures dans le texte. Paris: G. Masson, 1889. Pp. xi–806.

Affections chirurgicales des reins, des uretères et des capsules surrénales. Par A. Le Dentu, professeur agrégé à la Faculté de médecine de Paris, etc. Avec 34 figures dans le texte. Paris: G. Masson, 1889. Pp. v–828.

The Physiological Facts bearing on the production of the Nasal Vowels. By B. Loewenberg, M. D., Paris and Berlin. [Reprinted from the Medical Press and Circular.]

The Radical Cure of Hernia, with the Report of Three rather Unusual Cases. By William B. Van Lennep, A. M., M. D., Philadelphia. [Reprinted from the North American Journal of Homœopathy.]

The Surgical Treatment of Volvulus. By N. Senn, M. D., Ph. D. [Reprinted from the Medical News.]

Lecture on Vision and its Defects. By William Oliver Moore, M. D. [Reprinted from the Post-graduate.]

Contributions to Orthopædic Surgery. Flat-foot, a New Plantar Spring for its Relief. With Illustrations. By A. Sidney Roberts, M. D. [Reprinted from the Medical and Surgical Reporter.]

Second Annual Report of the Methodist Episcopal Hospital in the City of Brooklyn, N. Y. Covering the Period from November 1, 1888, to October 31, 1889.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars. For the Year 1888.

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

Contribution to the Pathology of the Acoustic Nerve.—Gradenigo (Ann. des mal. de l'oreille et du larynx, July, 1889) concludes that in endocranial diseases which are accompanied by increase of vascular pressure and optic neuritis (papillitis), a lymphatic stasis may be produced in the acoustic nerve, which is only revealed by an increase in the electric excitability of the nerve. The circulatory and nutritive modifications of the acoustic nerve may easily excite electric reaction of the nerve itself.

Noxious Effects on Audition by the Telephone.—Gellé (Ann. des mal. de l'oreille et du larynx, July, 1889) has noticed several times the unpleasant effects of the telephone on hearing. He considers that these effects are due sometimes to the telephonic sounds themselves, and sometimes to fatigue due to the necessary attention paid to this particular method of transmitting sonorous impressions. In all cases we must admit the existence of a certain nervous predisposition, and perhaps also a pre-existing pathological condition.

Contribution to the Physiology of the Soft Palate.—Joachim (Arch. of Otol., xviii, 3, 4) has observed that when a patient phonates, the elevation of the soft palate first occurs at its place of insertion. The soft palate is raised entire, but as the posterior parts have to go over a greater distance, the elevation appears wave-like. The intumescence of the levator palati increases during this process, and crowds between the lips of the orifice of the tube. During phonation the mouths of both Eustachian tubes face each other. Joachim concludes that the tube opens during the act of swallowing. In the position of rest the lips of the orifice of the tube are in contact in their whole extent, and the cleft is turned forward. When the soft palate has reached its highest point, it lies more or less close to the posterior wall of the pharynx and above the level of the hard palate, remains in that position without any perceptible motion during phonation, and sinks entirely back to its place of rest at the cessation of speech. The greatest elevation of the soft palate is produced in the vowels by *u* ; *i*, *o*, *e*, and *a* following in the order named. In the pronunciation of vowels with succeeding or preceding consonants, the line ascends without interruption to the summit, and falls straightway in the same manner. The pronunciation of words with many vowels produces a curve, with an irregular upper line; when, however, *m* or *n* is present in a word, the soft palate falls almost to the places corresponding to those consonants. Deglutition produces an elevation of the soft palate above the height of phonation. Coughing produces a curve similar to that of the letter *k*. Attempts at snoring formed an excursion somewhat less than coughing. Retching caused the highest excursion of the soft palate ever noticed. A marked negative excursion (sinking below the place of rest) has been noticed during sighing. Joachim concludes that the soft palate influences speech only by separating the mouth from the nasal cavity as far as it is necessary for the formation of speech, and that the loss of the nose does not impair its function as a resonance box.

Case of Cerebellar Abscess due to Ear Disease, with a Successful Operation.—Macewen (Arch. of Otol., xviii, 3) reports a case of this kind occurring in a young man, aged seventeen, who had suffered for twelve years from purulent disease of the left middle ear. When Macewen saw him he was unconscious, had an extremely weak and slow pulse, and the respiration was reduced to ten per minute. There was marked optic neuritis. A sinus existed behind the auricle. Macewen perforated the cortex of the mastoid by means of a burr propelled by a dental engine, opened into the antrum, and cleared out caseous-looking matter. He then exposed the lateral sinus, on which he found granulation tissue. With the same burr the bone was then perforated farther back than the groove for the lateral sinus, and, on reaching and cutting through the membranes over the cerebellum, a quantity of pus escaped with considerable force. Altogether about four ounces of pus were liberated from the interior of the cerebellum. A decalcified chicken-bone drainage-tube was inserted and antiseptic dressings applied. Immediate improvement took place in the condition of the patient. The pulse and respiration increased in strength and rapidity, and consciousness soon returned. The patient made an excellent recovery within a month.

Botanical and Clinical Contributions to Otomycosis.—Siebenmann (Arch. of Otol., xviii, 3, 4) has written a long and interesting paper, which is very difficult to abstract. In a case of long-continued suppuration from the middle ear following scarlatina he found a very small penicillium, which he calls *Penicillium minimum*. They are black spots and appear under the microscope as groups of small rounded conidia, which are partially budding, and cling to each other by their freshly germinated tubes. When isolated they appear plainly outlined, colorless, and also in thick, dark-brown layers. The delicate-branched, colorless mycelium is septate. The fruit-bearers resemble those of *Penicillium glaucum*. In addition, in each specimen, groups of crumpled, otherwise round, transparent, brownish cells are found. Siebenmann has also met with *Aspergillus nidulans* in the ear, a growth which has hitherto been unknown to aurists. It is distinguished from *Aspergillus fumigatus* not only by the sterigmata, which in the ripe are brighter and much longer, but also by the loose attachment of the latter in this stage. The darkest receptacles have frequently a naked vertex. The receptacles and fruit-bearers have a brownish color. Siebenmann believes that the perithecium of *Aspergillus nidulans* has been found before in the ear, and that it is identical with the obscure *Otomyces purpureus* of Wreden and Burnett. Clinically considered, the season of the year appears to have no influence whatever upon the occurrence of otomycosis. It is of rare occurrence among children under fifteen years of age. There is still a great discrepancy of opinion between authors as regards the frequency of otomycosis in general, and it is very desirable that cases in private practice should be reported separately from those in dispensary practice, since the frequency of otomycosis greatly differs in the two, the former being nearly four times greater than the latter. Siebenmann does not regard it as true that the country population suffers more from otomycosis than the population of cities, on account of their being exposed to direct sun radiation, heat, and perspiration.

A Rare Case of Auditory Reflexes.—Steinbrügge (Arch. of Otol., xviii, 3, 4) reports an interesting case occurring in a peasant aged forty-five. Fifteen years before, he was suddenly attacked with peculiar convulsive movements, as the result of a severe fright. Since then these attacks have occurred repeatedly under the influence of certain exciting causes. The case seemed to be essentially one of respiratory spasm due to reflex irritation of the respiratory center in the medulla through the auditory nerve. The acoustic irritation seemed also to exert a reflex irritation in the region of the hypoglossal nerve. One very striking feature in the case was that the spasms could be provoked by musical tones only and not by noises. After a single hypnotization and the suggestion of Dr. Hoffmann that the spasms would not recur in the future, the attacks, which had lasted fifteen years, did really cease, and up to the present time have not returned. The patient is now entirely insensitive to musical impressions. Anatomical lesions proper may be positively excluded, since a single suggestion sufficed to rid the patient of his attacks. There existed, however, a chronic diseased condition of the peripheral organs of hearing, which had probably for some time caused a permanent irritative condition of the auditory nerve paths, and had left a tendency to nervous disturbances of function. As a rule, some peripheric disease is necessary for the development of diseased reflex processes, but in addition there must be at the same time a functional weakness of the central organs of the nervous system. In the present case a definite irritation of the auditory nerve within the medulla oblongata could be conveyed to the region of the pneumogastric and hypoglossal, and so cause the peculiar respiratory spasm and the disturbance of speech. The principal nucleus of the auditory nerve, from which the inner portion of the posterior root takes its origin, borders on the pneumogastric nucleus medially, and this latter again medially on the nucleus of the hypoglossal.

The case seems to be an argument in favor of the view that the sensations of tone and of noises are conducted to the central organ along different nerve paths ; it also increases the probability of the existence of separate perceptive organs in the labyrinth. This would harmonize much better with the observation of otologists, that changes in the hearing power for speech and for noises do not bear a definite proportion to each other, than would the physiological hypothesis which refers the perception of noise impressions to the cochlea.

The Improvement in Hearing obtained by the Action of Intense Sounds in Cases of Ceruminal Plugs.—Kosegarten (Arch. of Otol., xviii, 3, 4) has been investigating the question whether or not the acuteness of hearing, dulled by disease, could be raised by the action of intense sounds. The greatest acuteness of hearing was first noted, then a hand-bell rung in front of the ear, and the hearing distance immediately measured, and after a lapse of five to fifteen minutes the hearing acuteness was measured again. Among eighty-five cases under observation, there was a decided improvement after ringing the bell in sixty-seven cases, in fifty-two cases immediately after the ringing, and a few minutes later an improvement was found to be present in sixty-four cases. In three cases the improvement, appearing immediately after the ringing, disappeared in a short time, while in thirty-four cases the improvement immediately obtained increased still more. In twelve cases the acuteness of hearing was no better immediately after the ringing, but in a few minutes it increased. Three times the hearing distance was somewhat diminished immediately after the ringing, but in a few minutes it rose above the first measurement. The amount of improvement varied extraordinarily. In ten cases of bilateral occlusion, twice the improvement was about the same in both ears ; in two cases it was greater in the better ear ; in six instances it was greater in the worse ear.

Investigations in Regard to the Influence of the Form of the Cranium upon Several Important Relations of the Temporal Bone.—Körner

(Arch. of Otol., xviii, 3, 4) has shown in a previous article that the fatal intracranial diseases consequent upon caries of the petrous bone (meningitis, sinus phlebitis, cerebral abscess) more frequently occur on the right—that is, after disease of the right petrous bone—than on the left side. The cause of this can only be due to the fact that the transverse sinus, at its sigmoid flexure, on the right side, enters deeper into the mastoid process and into the base of the pyramid of the petrous bone than on the left side; and that, therefore, the sinus on the right, as well as the contiguous dura mater, with the neighboring portions of the brain, lie nearer to the primary focus of the disease than on the left. Now, if in brachycephali the transverse sinus—without regard to the greater projection on the right side—is situated altogether farther forward than in dolichocephali, and if also the floor of the middle cranial fossa in brachycephali lies deeper—that is, nearer to the primary focus of disease—than in dolichocephali, then the assumption is justified that purulent inflammations of the middle ear and caries of the petrous bone in brachycephali more easily result in fatal intracranial disease than in dolichocephali. It has been found that the floor of the middle cranial fossa in dolichocephalic skulls lies higher over the external auditory canal and over the spina suprameatum than in brachycephalic skulls.

Contribution to the Treatment of Sclerosis of the Ear.—Loewenberg (Rev. de laryngologie et d'otologie, November 15, 1889) thinks that in this disease all increased or exaggerated pressure, and especially all sudden shocks, may, by irritating the drum, ossicles, and their attachments, increase the interstitial inflammatory process and cause an aggravation of the malady. He even thinks the labyrinth may be affected by a repetition of such shocks. Hence any form of inflation of the drum cavity should be employed with extreme caution, and the advantage of inflation should be preserved at the same time that the above-mentioned disadvantage is to be neutralized. This is best attained by the exclusive use of the catheter, and by instructing the patient to close the external meatus with the end of the finger when inflation is made, or by having both canals closed by some third person. He also employs the cold vapor of iodine mixed with air for purposes of inflating.

The Anatomical Lesions of the Ear in Endocranial Affections in General, and in the Different Forms of Meningitis.—Gradenigo (Ann. des mal. de l'oreille et du larynx, September, 1889) draws the following conclusions from his investigations: 1. The different forms of meningitis frequently give rise to inflammatory changes in the nerve trunks of the seventh and eighth pairs in the internal auditory canal, such as hæmorrhages and masses of purulent infiltration, due to propagation of the infectious agent along the sheaths of the nerves. At the entrance of the auditory canal these changes are rather localized in the intervaginal space and in the interfascicular framework of the connective tissue. At the bottom of the auditory canal the two nerves appear differently; in the facial nerve the exudation extends to the geniculate ganglion with relative integrity of the nervous fibrillæ; in the auditory nerve the hæmorrhagic and purulent exudation enters the nervous fibrillæ, compresses and destroys them. Voltolini's disease is a very acute neuritis of the auditory nerve induced by extension of the infectious process from the meninges. These alterations are entirely analogous to those met with in other cerebral and peripheral nerves in certain acute and infectious diseases, like diphtheria. 2. In endocranial diseases accompanied by increase of pressure and optic papillitis a lymphatic stasis may be produced in the auditory nerve, which is only revealed by an increase in the electrical irritability of the nerve.

The Employment of Camphorated Naphthol in Otology.—Dumont (Ann. des mal. de l'oreille et du larynx, September, 1889) considers camphorated naphthol superior as an antiseptic in the treatment of purulent otitis, as an adjuvant to the usual means employed. The solution he advises consists of 100 parts of naphthol to 200 of camphor, and it is necessary to thoroughly cleanse the auditory canal and the tympanic cavity before employing the solution.

Lesions of the Walls of the Tympanic Cavity.—Gellé (Ann. des mal. de l'oreille et du larynx, October, 1889) draws the following conclusions from his observations: The osteo-periostitis, so frequently met with in and around the ear, deserves special attention. Its point of origin is betrayed by inspection of the mural portion of the external auditory canal. The signs of disturbance in the intratympanic circulation, primitive or consecutive to intracranial lesions, are met with in this region. Trophic lesions associated with bulbar diseases, or with disease of the ganglion of Gasser or of the trigeminus, are also met with here. Observations made in this region show the nature and progress of the painful polypoid masses, their origin, and their formation by the gradual driving back of the soft parts in the osteo-periostitis of the mural region.

The Employment of the New Phonograph of Edison as a Universal Acoumeter.—Lichtwitz (Ann. des mal. de l'oreille et du larynx, October, 1889) considers that the phonograph possesses all the qualities which a good acoumeter should possess, viz.: 1. The acoumeter should possess the power of emitting all the sounds and noises perceptible to a normal ear, especially speech with all its inflections. 2. It should be a constant source of sound, so as to admit of comparison between the auditory acuity of different patients and between the different stages of the disease in the same patient. 3. It should be a uniform apparatus, always of the same construction, in order that it may be universally employed by aurists of different countries. 4. Its employment should be easy, without occupying too much time or space. 5. It should render possible the measure of the acuteness of hearing, not only through the medium of the ear, but also through the medium of the cranial bones. The phonograph is more easily brought into use than any of the other usual methods and takes less time. It resembles the methods employed by oculists for testing the visual acuity. The phonograph, as at present constituted, can only be actually employed for aerial perception.

The Telephone and Diseases of the Ear.—Lannois (Ann. des mal. de l'oreille et du larynx, October, 1889) thinks that the employment of the telephone frequently repeated seems to cause no bad effect in healthy ears, but it is injurious for ears which have an existing lesion. The symptoms caused by the continuous use of the telephone are loss of acuteness of hearing owing to fatigue of the auditory attention, tinnitus and divers subjective noises, cephalalgia, vertigo, nervous hyper-excitability, and even transient psychic troubles.

Method for determining the Mobility and Elasticity of the Tympanic Apparatus.—Loewenberg (Ann. des mal. de l'oreille et du larynx, November, 1889) has constructed an instrument which he thinks will answer the following demands: 1. To exert a *known* pressure or traction upon the external surface of the tympanic membrane. 2. To measure the amount of yielding of the tympanic apparatus under this pressure (mobility). 3. To demonstrate whether the organs thus influenced regained in whole or in part their original position after the force had ceased to act. The instrument consists of the cylinder of a glass syringe divided into tenths of centimetres, and terminated at its lower end by a metallic addition armed with three stop-cocks. One stop-cock opens and closes the communication between the interior of the instrument and the atmosphere. One regulates the communication between a mercurial manometer and the atmosphere. One establishes a communication between the body of the apparatus and a rubber tube attached to the end of the metallic addition, and which is to be inserted into the external auditory canal by means of a rubber stopper. The latter is pierced by a hole throughout its length, and puts the interior of the auditory canal in communication with that of the instrument. The manometer is divided into millimetres, and can measure very feeble oscillations. The syringe and the manometer are fixed on a board, which ends at the bottom in a solid foot.

Miscellany.

Tenth International Medical Congress, Berlin, 1890.—The following announcement of the arrangements for the Berlin Congress has been received:

Regulations and Programme.—I. The Tenth International Medical Congress will be opened in Berlin on Monday, August 4, 1890, and will be closed on Saturday, August 9th.

II. The congress shall consist of legally qualified medical men who have inscribed themselves as members and have paid for their card of membership. Other men of science who interest themselves in the work of the congress may be admitted as extraordinary members.

Those who take part in the congress shall pay a subscription of 20 marks (one pound sterling or $5) on being enrolled as members. For this sum they shall receive a copy of the Transactions as soon as they appear. The enrollment shall take place at the beginning of the congress. Gentlemen may, however, be enrolled as members by sending the amount of the subscription to the treasurer,* with their name, professional status, and residence appended.

III. The object of the congress is an exclusively scientific one.

IV. The work of the congress will be discharged by eighteen different sections. The members shall declare upon enrollment to which section or sections they intend more particularly to attach themselves.

V. The Committee of Organization shall, at the opening sitting of the congress, suggest the election of a definite committee (or bureau) which shall consist of a president, three vice-presidents, and of a number—as yet undetermined—of honorary presidents and secretaries.

At the first meeting of each section a president and certain number of honorary presidents shall be elected; these latter shall conduct the business of the sections in turn with the presidents.

On account of the different languages employed, a suitable number of secretaries shall be chosen from among the foreign members. The duties of the foreign secretaries shall be confined to the sittings of the congress.

After the termination of the congress the editing of the Transactions shall be carried out by a committee specially appointed for this purpose.

VI. The congress will assemble daily, either for a general meeting or for the labors of the different sections.

The general meetings will be held between 11 and 2 o'clock. Three such meetings will take place.

The time for the sittings of the various sections will be fixed by the special committee of each section, it being understood, however, that no such sittings are to take place during the hours allotted to the general meetings.

Joint sittings of two or more sections may be held, provided that the bureau of the congress can offer suitable rooms for such sittings.

VII. The general meetings shall be devoted to (α) transactions connected with the work and general management of the congress; (β) speeches and communications of general interest.

VIII. Addresses in the general sittings, as well as in any extraordinary meetings which may be determined upon, can only be given by those who have been specially requested by the Committee of Organization.

Proposals relative to the future management of the congress must be announced to the Committee of Organization before July 1, 1890. The committee shall decide whether these proposals are suitable to be introduced for discussion.

IX. In the sittings of the sections, questions and problems will be discussed which have been agreed upon by the special committees of organization. The communications of those appointed by the committee to report on a subject shall form the basis of discussion. As far as time allows, other communications or proposals, proceeding from members and sanctioned by the Committee of Organization, may also be introduced for discussion. The bureau of each section decides as to the acceptance of such offered communications, and as to the order in which they shall come before the meeting, always provided that this point has not been already determined in the sitting itself by a decree of the section. Scientific questions shall not be put to the vote.

X. Introductory addresses in the sections must as a rule not exceed *twenty minutes in length.* In the discussions no more than *ten minutes* are allowed to each speaker.

XI. All addresses and papers in the general and sectional meetings must be handed over to the secretaries, in writing, before the end of the sitting. The Editorial Committee shall decide whether—and to what extent—these written contributions shall be included in the printed Transactions of the congress. The members who have taken part in the discussions will be requested to hand over to the secretaries, before the end of the day, in writing, the substance of their remarks.

XII. The official languages of all the sittings shall be German, English, and French. The regulations, the programme, and the agenda for the day will be printed in all three languages.

It will, however, be allowable to make use of other languages than the above for brief remarks, always provided that one of the members present is ready to translate the gist of such remarks into one of the official languages.

XIII. The acting president shall conduct the business of each meeting according to the parliamentary rules generally accepted in deliberative assemblies.

XIV. Medical students and other persons, ladies and gentlemen, who are not physicians but who take a special interest in the work of a particular sitting, may be invited by the president or be allowed to attend the sitting by special permission.

XV. Communications or inquiries regarding the business of separate sections must be addressed to the managing members thereof. All other communications and inquiries must be directed to the general secretary, Dr. Lassar, Berlin N. W., 19 Karlstrasse.

Special Sections.—Committees of Organization.—(The names which appear in Italics are those of the managing members.)

1. Anatomy.—Flemming, Kiel; Hasse, Breslau; *Hertwig*, Berlin W., Maassenstrasse 34; His, Leipsic; von Kölliker, Würzburg; Kupffer, München; Merkel, Göttingen; Schwalbe, Strassburg; Wiedersheim, Freiburg.

2. Physiology and Physiological Chemistry.—Bernstein, Halle; Biedermann, Jena; *Du Bois-Reymond*, Berlin W., Neue Wilhelmstrasse 15; Heidenhain, Breslau; Hensen, Kiel; Hüfner, Tübingen; Hoppe-Seyler, Strassburg; H Munk, Berlin; Voit, München.

3. General Pathology and Pathological Anatomy.—Arnold, Heidelberg; Bollinger, München; Grawitz, Greifswald; Heller, Kiel; Ponfick, Breslau; von Recklinghausen, Strassburg; *Virchow*, Berlin W., Schellingstrasse 10; Weigert, Frankfurt a. M.; Zenker, Erlangen.

4. Pharmacology.—Binz, Bonn; Böhm, Leipsic; Filehne, Breslau; Jaffé, Königsberg; *Liebreich*, Berlin N. W., Dorotheenstrasse 34 a; Marmé, Göttingen; Penzoldt, Erlangen; Schmiedeberg, Strassburg; Hugo Schulz, Greifswald.

5. Internal Medicine.—Biermer, Breslau; Gerhardt, Berlin; Leube, Würzburg; *Leyden*, Berlin W., Thiergartenstrasse 14; Lichtheim, Königsberg; Liebermeister, Tübingen; Mosler, Greifswald; Naunyn, Strassburg; von Ziemssen, München.

6. Diseases of Children.—Baginsky, Berlin; *Henoch*, Berlin W., Bellevuestrasse 8; Heubner, Leipsic; Kohts, Strassburg; Krabler, Greifswald; Ranke, München; Rehn, Frankfurt a. M.; Soltmann, Breslau; Steffen, Stettin.

7. Surgery.—Bardeleben, Berlin; *von Bergmann*, Berlin N. W., Alexander-Ufer 1; Czerny, Heidelberg; König, Göttingen; von Lotzbeck, München; Schede, Hamburg; C. Thiersch, Leipsic; Trendelenburg, Bonn; Wagner, Königshütte.

8. Obstetrics and Gynæcology.—Fritsch, Breslau; Gusserow, Berlin; Hegar, Freiburg; Hofmeyer, Würzburg; Kaltenbach, Halle; Löhlein-Giessen; *Martin*, Berlin N. W., Moltkestrasse 2; Olshausen, Berlin; Winckel, München.

9. Neurology and Psychiatry.—Binswanger, Jena; Emminghaus, Freiburg; Erb, Heidelberg; Flechsig, Leipsic; Fürstner, Heidelberg; Grashey, München; Hitzig, Halle; Jolly, Strassburg; *Laehr*, Berlin, Zehlendorf.

10. Ophthalmology.—O. Becker, Heidelberg; Eversbusch, Erlangen; von Hippel, Giessen; Hirschberg, Berlin; Leber, Göttingen; Michel, Würzburg; Schmidt-Rimpler, Marburg; *Schweigger*, Berlin N. W., Roonstrasse 6; von Zehender, Rostock.

11. Otology.—Bezold, München; Bürkner, Göttingen; Kirchner, Würzburg; Kuhn, Strassburg; Kessel, Jena; *Lucae*, Berlin W., Lützowplatz 9; Magnus, Königsberg; Moos, Heidelberg; Trautmann, Berlin.

12. Laryngology and Rhinology.—Beschorner, Dresden; *B. Fränkel*,

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* Treasurer's address: Dr. M. Bartels, Berlin S. W., Leipzigerstrasse 75. Please inclose a visiting-card.

Berlin N. W., Neustädtische Kirchstrasse 12; Gottstein, Breslau; A. Hartmann, Berlin; Jurasz, Heidelberg; H. Krause, Berlin; Michael, Hamburg; Schech, München; M. Schmidt, Frankfurt a. M.

13. Dermatology and Syphilography.—Caspary, Königsberg; Doutrelepont, Bonn; Köbner, Berlin; *Lassar*, Berlin N. W., Carlstrasse 19; Lesser, Leipsic; G. Lewin, Berlin; Neisser, Breslau; Unna, Hamburg; Wolff, Strassburg.

14. Diseases of the Teeth.—*Busch*, Berlin N. W., Alexander-Ufer 6; Calais, Hamburg; Hesse, Leipsic; Fricke, Kiel; Holländer, Halle; Miller, Berlin; Partsch, Breslau; Sauer, Berlin; Weil, München.

15. Hygiene.—Flügge, Breslau; Gaffky, Giessen; Graf, Elberfeld; F. Hofmann, Leipsic; R. Koch, Berlin; Lehmann, Würzburg; *Pistor*, Berlin W., v. d. Heydtstrasse 13; Wolffhügel, Göttingen; Uffelmann, Rostock.

16. Medical Geography and Climatology (History and Statistics).—Abel, Stettin; Brock, Berlin; Dettweiler, Falkenstein; Falkenstein, Lichterfelde; Finkelnburg, Bonn; Guttstadt, Berlin; *A. Hirsch*, Berlin W., Potsdamerstrasse 113; Lent, Köln; Wernich, Cöslin.

17. State Medicine.—Falk, Berlin; Günther, Dresden; von Hölder, Stuttgart; Knauff, Heidelberg; *Liman*, Berlin S. W., Königgrätzerstrasse 46a; Schönfeld, Berlin; Schwarz, Köln; Skrzeczka, Berlin; Ungar, Bonn.

18. Military Hygiene.—Von Coler, Berlin; von Fichte, Stuttgart; Grasnick, Berlin; Grossheim, Berlin; *Krocker*, Berlin W., Magdeburger Platz 3; Mehlhausen, Berlin; Mohr, München; Roth, Dresden; Wenzel, Berlin.

Buttermilk as a Diuretic in Chronic Bright's Disease.—Dr. Henry D. White, of Nutley, N. J., writes as follows:

"It often happens when treating a case of chronic Bright's disease, where the quantity of urine passed in twenty-four hours is very small and of high color, that one fails to find a diuretic which will act with any degree of certainty and for any length of time. Such was my experience with a patient whom I have been treating for a number of months, with very little success until lately. Mrs. M., aged fifty-five, weight three hundred and fifty pounds, the mother of eleven children, has been suffering with chronic Bright's disease for the past five years. I was called to see her July 6, 1889. She was then suffering mostly from dyspnœa, constipation, very small quantity of urine being passed, and intense œdema of the legs, with small superficial ulcers which caused excessive pain. I put her at once on the use of diuretics and laxatives, giving her a soothing lotion for the legs. For a short time the diuretics acted well, but subsequently failed to produce any effect whatever. I changed from one diuretic to another, but with no success. In the latter part of November she expressed a desire for some buttermilk. As I saw no harm in its use, and knowing that it was nourishing, I allowed her to have it. The next time I saw her was about one week after she commenced taking the buttermilk. She then told me that since she had been taking it she had passed large quantities of urine of a healthy color. It is needless to say that I was surprised at the result, as I had never in my reading seen any reference to its use. To make sure that it was the buttermilk which was acting as a diuretic, I then had it stopped for forty-eight hours. The urine at once diminished in amount and resumed its high color. On commencing the use of the buttermilk again, the urine increased in amount and became of a normal color. Up to the time of writing she has lived almost exclusively on buttermilk, and says she has not felt as well as she does now for some years. I would here state that the quantity of buttermilk taken in twenty-four hours has not at any time exceeded two quarts, and that she has taken no medicine of any kind since she commenced its use. The bowels have acted naturally, the œdema has almost entirely disappeared, and the ulcers on her legs have healed.

"I will not try to explain the action of the buttermilk on the kidneys, but merely give this as an example of its use as a diuretic when everything else had failed. Whether it will have the same effect in every case of chronic Bright's disease I am not prepared to say, as I have not had enough experience with it as yet. At any rate, it seems worthy of a trial."

The late Dr. David Clark Cocks.—At a recent meeting of the New York Ophthalmological Society the following resolution was adopted: That we hereby express our sincere and deep regret at his loss and our tribute of affection and respect for his memory. By faithful and industrious labor he had reached a position of honor among the community and in the profession. He commanded the confidence of all who knew him by the fidelity and uprightness of his character, by the soundness of his judgment, by his skill, and by the conscientious pains which he brought to bear upon all that he undertook.

He was discreet, thorough, observant, and never spared himself if he might serve the distressed. He was imbued with a love of knowledge, and was not only versed in medical literature, but was capable of discerning new facts and suggesting new methods in clinical experience. We have lost a tried and true friend, an excellent co-worker, and one for whom the future promised even more than the past had realized. To his family we offer our sincere sympathy and respectful condolence.

Committee: { PETER A. CALLAN,
RICHARD H. DERBY,
J. B. EMERSON.

The International Medical Annual for 1890 is announced as in press, by Mr. E. B. Treat. The work has been done by thirty-seven editors to whom special parts have been assigned.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE PROPHYLAXIS OF GOUT.*

By WALTER MENDELSON, M. D.

As family practitioners, brought into contact with the children and often with the grandchildren of our patients, there will be repeatedly presented to our minds the question, How can we prevent gout developing in those who, as far as we can judge, seem destined to be sufferers in later years?

The importance of this subject is one that has often impressed itself upon me. And though I have rarely seen it touched upon, yet it seems well worthy of earnest thought when its bearing upon future generations is taken into account.

It does not come within the scope of this paper to enter into a discussion of the many hypotheses concerning the exact nature of the disease, physiological chemistry being still in too immature a state to allow of anything more than guarded speculations on this head. All we can say, in general terms, is that gout is the result of a perverted metabolism, and that we know it clinically by a complex of many symptoms, some, and often many, of which are always present in one individual.

Before, however, passing to the question of prophylaxis, we must briefly review some at least of the principal indications which seem to call for a particular mode of life to be observed, and also to point out those early signs which observation has shown to be the manifestations of what may later become well-defined gout.

First of all, we should inquire into the ancestry and surroundings of our patient. It is customary at the present time to lay what, to my mind, seems an exaggerated stress upon the influence of heredity, forgetting that in the Darwinian theory of evolution environment plays a part of not less importance. We talk of inherited gout in instances where it is often far more probable that not the gout itself, but an environment of tastes and habits and way of living favorable to produce gout, is the legacy of parent to child.

Not that I would be understood as denying the influence of pure heredity. The evidences of its existence are often too striking to be gainsaid. All that I would insist on is that heredity be not unduly exalted over environment.

It might seem as though this difference were of little practical moment, but it is always of importance to know the reasons why we do things. Empiricism has, indeed, often led to valuable individual results, but empirical practices can never lead to broad and general conceptions until, subjected to philosophical analysis, the method of their action stands revealed. And in considering the prophylaxis of gout, the importance of keeping our minds clear regarding the different influences exerted by heredity and environment will, I think, become apparent when we reflect that were gout, or diseases generally, hereditary in the strict sense of the word, our efforts toward subduing them would be as practically nil as efforts to change the inherited shape of a nose or the color of eyes would be. But when, on the other hand, we study the causation of the disease in the light which environment throws upon it, we find that much—very much—may be done where, as is usually the case, the environment is capable of being modified by intelligent effort.

Or, to put the matter a little differently, were the gouty vice so largely dependent upon heredity as we often seem inclined to believe, efforts at prophylaxis would have to be directed not to the individual but to a class, and these efforts would then fall rather to the political economist than to the physician. But regarding it as largely due to a faulty, but often remediable, environment (and this I am inclined to believe is the more correct view), there is an olive-branch of hope held out to us as physicians in our endeavors to influence the individual through his surroundings.

With this preliminary, let us inquire what those circumstances or symptoms are which might lead us to believe that the person with whom they occur would later show signs of the existence of gout.

And here, for the sake of convenience, we may divide our patients into two classes:

First. Those who have no actual manifestations, but who, from heredity and environment, seem likely to become gouty later in life. (This category will comprise mostly children and young adults.)

Secondly. Those in whom gout has already declared itself, but in whom we wish to stop, or at least render less often, subsequent attacks.

Given a family of young persons, what are the circumstances which may lead us to think that they may be victims to gout in later years? Here is a type of family that we often see. The grandparents are healthy people. Originally poor, they have risen by steady industry to the accumulation of a comfortable income. The son, not contented with the slower means of making a living, engages in some business where speculation for wealth has in a great measure supplanted the slower principle of producing it. He necessarily leads a life of great nervous strain, makes a good deal of money quickly, perhaps often only after several trying reverses of fortune, and spends a good deal too; lives high, drinks champagne daily for dinner, and is perhaps a not infrequent imbiber of cocktails during business hours.

His wife leads a similar life of excitement in her way—in the sociable, charitable, or church line of activity. By the time the husband is forty he has well-marked gout in some of its many forms; perhaps deposits in the joints, perhaps cirrhotic kidneys. The wife by this time is quite likely a confirmed dyspeptic, and has gone through several attacks of "nervous depression," or maybe she is a chronic neurastheniac.

When we come to the children, we find the elder ones the healthier, having been begotten when the parents were in a better physical condition. They will all be more or less unhygienically brought up, according to the various grades of intelligence of the parents; allowed food of unsuitable kinds and quantities, and partaking at least in a partial degree of the life of excitement led by the parents. Fed on highly stimulating food, allowed to drink tea and coffee, and not infrequently wines, these children grow up to be nervous and excitable creatures. They may be subject to "night terrors," to chorea, to sick headaches, and manifestations of a disturbed nervous economy even more grave. Or the chronic malnutrition to which they are subject may show itself in dyspeptic troubles or in skin diseases—notably eczema; or in a tendency to be croupy, to have bronchitis, and to be subject to attacks of acute amygdalitis. These children are very liable to "bilious attacks," characterized by feverishness toward bed-time, followed, after a few house of restless sleep, by vomiting and purging.

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* Read before the New York Clinical Society, December 27, 1889.

Fothergill has humorously divided gouty people into two types—the Anglo-Saxon and the Arab; the former florid and robust-looking, the latter dark, lean, and bilious. In children you see this division as markedly as you do in adults. Thus many goutily inclined children are fat and flabby, with skins inclined to be greasy; others, again, may be the pictures of robust health; while yet another type is dark, lean, and precociously bright. As a rule, the Anglo-Saxon type is inclined to skin troubles and catarrhs of the alimentary and respiratory tract, while in the Arab we more often meet with megrim, chorea, and other nerve disorders.

Knowing what the parents are, it seems to me that it is not unreasonable to suppose that the children, following in the same track, may in due time become gouty, and I am the more confirmed in this opinion since it has been my fortune to see well-marked gouty manifestations develop soon after the age of puberty in children who live in what I may be allowed to call a gouty atmosphere.

Placed in charge of such a family, the physician can, I am convinced by experience, do much to insure its members a greater share of physical well-being than might otherwise fall to their lot. For this, co-operation on the part of the parents, or of an intelligent nurse, is, of course, indispensable. But usually we can count on this, parental love making even the foolish wise. The first thing necessary is to attend to the general hygiene, drugs playing but a subordinate part. And here regard to diet is of prime importance, and usually we will find that our efforts will have to be directed chiefly to securing a simpler and more rational diet list.

Most children, up to the age of three or four, and especially if in charge of a nurse, are systematically overfed. There is apparently a tendency to regard children of that age more as prize cattle in training for exhibition at a county fair than as material out of which rational beings are to be shaped. Consequently, strict attention to the quantity of food, and to the nurse, is indispensable. I say "the nurse" advisedly, as on one occasion the only way by which I could secure the health of a child was by insisting upon the discharge of the nurse, who would insist on overfeeding the child, both night and day, in spite of all orders to the contrary. If a child is fat and dyspeptic, is inclined to bronchial and intestinal catarrhs, to amygdalitis, to eczema, and to bilious attacks, you will find, as a rule, I think, that it is being overfed and that its diet is too uniform. It is a common error to give a child one kind of food too exclusively, and this either farinaceous or animal. Some get too much of one, some too much of the other, and many too much of both. Children often get too much animal food, especially eggs, with the idea that it is "strengthening," and not enough green vegetables and fruit, because these are supposed to "upset the bowels."

A judicious combination is what we must insist on. And, as a rule, it will not be necessary to either proscribe or prescribe certain foods, except on the lines just indicated. The diet of small children should be largely farinaceous, I think, except where there is a tendency to flatulent dyspepsia, whether of the stomach or bowels. Many little patients in whom eczemas are imputed to too starchy a regimen, will be found on inquiry to be really suffering from a want of those alkaline salts which normally are introduced into the system through the medium of green vegetables and fruit. Hence I insist on children being brought up to eat such vegetables as are in season (with certain exceptions—such as corn, cabbage, and egg-plant), and to have plenty of fruit—raw in summer, stewed or baked in winter.

The change of a peevish, sickly little glutton to a bright and amiable child, which a judicious alteration in the amount and kind of diet will often produce, is one of the most gratifying results in medical practice.

In older children the dangers of constant indulgence in rich and highly seasoned food, in pies, pastry, cake, and desserts generally, can not be too strongly insisted on. But, above all, we must condemn in unmeasured terms the use by children of nerve stimulants, whether alcoholic or in the shape of tea and coffee, for stimulants act injuriously in a double way. In the first place, they generally produce indigestion; and, in the second, their use induces a condition of nervous erethism, which is, I am inclined to believe, in itself a strong predisposing cause in the production of gout.

In children, next to attention to diet are the subjects of clothing, bathing, and exercise. Just as most children are overfed, so, too, are they overdressed, in the sense of having too much on, and that not properly made. The habit of putting a great number of woolen clothes upon a child, which I find to be common, is the cause of much illness, especially as most houses are overheated by a furnace. The free perspiration which these practices induce is too often followed by taking cold whenever there is a sudden change of temperature.

Another reprehensible thing often found is that the clothes are made to button by a waist snugly to the chest and abdomen. This, by the rapid growth of the child, soon becomes too tight, impeding the free action of the lungs, and, through them, of the circulation. The clothes of children should be few in number, and should be so made as to hang free from the shoulders, leaving the body entirely untrammeled.

Bathing—sponging in cold water in a warm room—should be insisted on, followed by a good rubbing to stimulate the circulation in the skin.

As for exercise and fresh air, I believe that, unless children are absolutely sickly, they should be sent out in all sorts of weather, no matter how inclement it may seem. If it rains, give them rubber boots and water-proofs, and let them have a good time wading in the puddles, of which our New York streets always afford an abundance of variety during a storm.

In recommending such a course of hardening I am well aware that there will always be found a certain number of children who can not stand it, and a vastly greater number of parents who are opposed to trying it. But where there are twenty children of whom it has been thought that they were of too delicate a nature to bear such treatment, there will perhaps be found but one of whom this is really true. In fact, it is often the so-called delicate ones—those who have been shielded from every draught that blows—who need it most and thrive under it best.

These remarks upon prophylactic treatment in children will then be seen to resolve themselves simply into regulations for keeping the child in the best health possible, paying particular care to the digestion. And, indeed, the whole spirit of the prophylaxis of gout, from the very nature of things, can be nothing more than an attempt to do this. For gout, being essentially the manifestation of a faulty metabolism—a disturbed nutrition—that treatment will be most successful which succeeds in putting the metabolic processes of the organism upon a footing most approaching the normal. Hence all our endeavors must be directed, irstly, toward maintaining in perfect order the apparatus that fits the food for absorption—the alimentary canal; and, secondly, toward bringing about those circumstances most avorable for the proper elaboration of the products of digestion into the various tissues of the body.

In considering the subject of prophylaxis for adults we may conveniently divide them into those who have only he mildest manifestations and in whom we wish to prevent he graver ones, and into those in whom severe symptoms having occurred, we desire to make their appearance less requent.

Where only mild manifestations are present, such as occasionally painful joints, neuralgic or sick headaches, a endency to eczema, early grayness of the hair, etc., rules he same in spirit as those laid down for children are applicable.

In their diet such persons should studiously avoid all ich and indigestible food, no matter what its kind may be, or it is often not so much the kind as the mode of preparation that makes food injurious. Let us not be too rigid n insisting upon a complete withdrawal of starches and ugars in favor of an almost exclusively meat diet. Only when flatulent or acid dyspepsia exists is the latter course o imperatively indicated, I think.

As in children, so too in adults you will find that most persons eat, as a rule, a greater quantity than is needed for he repair of the tissues, and hence that many cases of gouty dyspepsia can be cured by simply insisting that the patient rise from table not completely satisfied, and that he hew his food thoroughly.

In marked and advanced cases of gout, of course a trictly animal diet is often the only thing that will bring relief, and those who are goutily inclined should always be sparing in their use of the carbohydrates; yet to cut off starches and sugars entirely, as some would do, seems to me a mistake.

In seeking to formulate any rational system of treatment of the gouty diathesis we must constantly bear in mind the great rôle the liver plays in the pathogenesis of this disease; that its principal function is not, as we were taught till some years ago, the secretion of bile, but the performance of primary metabolism. It is in the liver that both the carbohydrates and the proteids undergo in large part those changes, constructive as well as destructive, which fit them either for absorption as tissue-formers, or for elimination through the urine.

It becomes readily conceivable, therefore, that any excessive indulgence in either of these classes of food may, temporarily at least, throw upon the liver a strain so great as to seriously overtax its metabolic functions. Hence the importance of moderation in diet; the importance of allowing sufficient time for the liver to perform these chemical changes, in the absence of which a large mass of material, unfit for tissue food, and some of it (as, for instance, the ptomaines formed in the alimentary canal) directly poisonous, may not be carried into the circulation to the prejudice of the whole economy.

In this connection it may not be out of place to again allude to the importance of green vegetables and of many fruits in the dietary of the goutily inclined. Green vegetables contain but little starch, sugar, or proteid material, being made up largely of water, cellulose, and alkaline salts; and fruits, though containing much sugar, are, on the other hand, rich in malates, tartrates, citrates, and other vegetable-acid salts of the alkalies and alkaline earths. These salts, though acid in reaction, become changed in the system to corresponding carbonates having an alkaline reaction, and tend to neutralize the lactic and other acids formed from the decomposition of sugars and fats in the intestines. So marked, indeed, may this alkalinization be that after a hearty meal of fruit I have often seen the urine so alkaline as to be turbid from the precipitation of its earthy phosphates. The urine of cattle is normally turbid and alkaline.

Equally important with the subject of food is that of the use of alcoholic stimulants. From time immemorial too free an indulgence in the pleasures of the table has been considered a potent cause of gout, though, as we now know, it is by no means the only one, and the question of the use of wines, malt liquors, and spirits will be one on which we shall constantly be called upon to decide. Personally I believe that the habitual or frequent use of wine, even in moderation, is always attended by more or less risk to the digestion. Certain it is that the climate of this country will not allow anything like the indulgence which in Europe may be risked with impunity. So to any one inclined to gout I would say, Drink not at all. But, however excellent this may be, both in practice and in theory, we are constantly brought into contact with people to whom the lack of wine at meals seems, and therefore is, a great deprivation. To them we should recommend the use of good but light clarets and

Rhine wines, in place of Burgundies, sherry, or port. The latter two, indeed, are fortunately little drank here, and so we have little chance to see their effects, but the reputation which "fine old crusted port" enjoys in England for producing a fine old urate-incrusted toe joint has been handed down to us in scores of classical novels.

All the sweet wines, so many of which are now grown in California, must be rigidly avoided, and the habitual use of champagne is to be especially condemned. Malt liquors, as experience has amply shown, are active factors in producing or developing gout. And of these the American lager beer is, in my experience, the worst. This arises probably from the too hasty manner of its preparation. The fermentative processes are not completed, and, when the beer is drank, they continue in the stomach and intestines, giving rise to flatulent dyspepsia with the formation of various acids, as by-products, which greatly interfere with digestion. In elderly people a little alcoholic stimulant at meal times is often indicated, and then a little whisky or brandy in water is preferable to wine.

So far, our whole attention has been turned to that stage of metabolism often called *primary external digestion*, because it takes place in the alimentary canal, which, being but an involution of the external surface, can not, in the strictest sense, be considered as within the body.

Secondary or *internal digestion* consists of those metabolic changes which convert the absorbed food into the substances proper to the various tissues to be replaced. And it is with the problem how best to put the system into conditions most favorable for these changes that we must now concern ourselves.

The commerce of the body, like that of the nation, prospers best under conditions of absolute freedom. And the greater the freedom which the mediums of transportation and exchange possess—the more unimpededly the blood and lymph can carry food to the tissues and remove again the waste products—the more perfectly will all the metabolic transformations go on, and the greater will be the prosperity which the economy of the body will enjoy. And to accomplish this end there is no means so effective as exercise. But let me insist that exercise must not be of the body alone; it must be of the mind as well. It should be a true diversion, and an intellectual effort, in order to produce its best effects. To rest a fatigued brain is not to do nothing, but to do something different.

Goethe has said:

"Rest is not quitting
The busy career.
Rest is the fitting
Of self to one's sphere.

. . . .

"'Tis loving and serving
The highest and best.
'Tis onward unswerving,
And that is true rest."

Hence, to prescribe dumb-bells, rowing weights, or even Indian clubs—with which considerable skill and ingenuity can be brought into play—will often prove of little benefit.

Of all the forms of exercise available in a city, riding best meets the required indications. The great increase of riders in the Central Park emphasizes at once the popularity of horsemanship and the growing feeling of the need for an effective rest for mind and body—a feeling which the constantly increasing demands upon the nervous system made by life in a great metropolis has engendered. The one great drawback to riding is its expense.

The next best thing, perhaps, is a bicycle, which, as the man who sold me mine remarked, "eats no oats." And now that the "safety" pattern is, to a large degree, supplanting the high "ordinary," the last element of danger seems to have been removed. To those who are not riders it may be pertinent to remark that it is wrong to suppose that in riding a bicycle only the lower extremities are used. The whole body shares in the exercise. There is probably not a muscle that does not come into play, both in propelling the machine and for that delicate and wondrous coordination by which alone the balance in ever-changing positions is preserved. And, automatic and almost unconscious as this soon becomes, it never seems to lose its fascination and wonder for the mind. Hence the charm of bicycling. It is a constant exemplar of the victory of mind over matter; of doing easily what at first would seem impossible to be done at all!

Tennis is another form of exercise that fully meets all requirements. In the summer the Park in certain places is full of tennis players, and in winter many clubs are organized that play in the armories and other large inclosed spaces. It is one of the few vigorous sports that women can engage in equally with men.

I dwell on these forms of exercise particularly, because they seem most easily to accomplish our desired object; they are sufficiently vigorous, they are interesting, and they must take place out of doors in the fresh air. But, of course, any form of exercise, so long as it is a pleasure and not an unpleasant duty, is of use. To many patients, however, especially elderly ones, such violent forms are impossible. For them other forms will have to be devised, suited to circumstances.

Let me suggest billiards as being one where to considerable physical exertion a most agreeable mental occupation is added.

I regret to say that for women, and especially in cities and in the winter, suitable forms of exercise are difficult to command. Many women ride and play tennis; a few may be seen on tricycles, and some even on bicycles, but on the whole they do not have as many resources as men.

I have perhaps sufficiently emphasized the importance of regarding the mind as inseparable from the body when deciding on the forms of bodily exercise to be employed. But, in addition, I must also ask you to constantly remember the importance of attending carefully to the nervous systems of your gouty patients as influenced by their minds, for gouty people are particularly prone to nervousness, and this reacts again to maintain the very condition that has produced it.

The common sources of mental worry and strain, whether they arise from business or from the cares of family, or what not, we are generally powerless to remove. But we can seek o neutralize them, to take the mind away from that which abitually engrosses it, and raze out the written troubles of he brain by giving it something different to do. Urge our patients to cultivate some mental resource, and, if posible, always let it be of an elevating kind—literature, music, rt, public life—whichever seems most suitable.

The therapeutic value of enjoyment is too often forgoten. A visit to the theatre is certainly more gladly taken han a dose of medicine, and is often more efficacious. A rip into the country in summer, or to a neighboring city in inter, is worth more than tonics. Change is the great hing. It matters often little what it is, so long as it *is* a hange.

And when summer comes and families are breaking up or the country, insist that its members separate.

A family of gouty dyspeptics, no matter how fond they ay be of one another, necessarily keep up a condition of utual irritation and worry. Separate them for a few weeks nd the effect is often marvelous. Even those who stay beind in the city share in the benefits. I have had occasion o make this experiment many times, and always with unarying results.

We have now arrived at a point in the discussion of our ubject where prophylaxis needs must merge into therapeuis—namely, when we consider preventive measures as aplied to those who are occasional or constant sufferers from out, our object being then to make the attacks less freuent or less severe.

In this country the so-called irregular manifestations of out are by far more common than the classical podagra. n my experience the latter is rare, the arthritic troubles howing themselves not in sudden sharp seizures, but as ains and tenderness in the joints more or less constant and evere. Uratic deposits are rarely of the magnitude such s Garrod figures in his classical treatise, nor are nodules n the ears often met with. All the marked instances of xtensive deposit that I have seen have been in Englishen.

Among the irregular manifestations of gout most often et with here, the following may be mentioned: Swelling nd tenderness of the small joints of the feet and hands; yspepsia—generally flatulent though sometimes acid; neualgias in various regions, but commonly sciatic or intercosal; sick headaches in women, coming on especially about he time of menstruation; a tendency to eczema and less ften to psoriasis; attacks of biliary and of renal colic; uric cid sediment in the urine; oxaluria, and occasional glycouria; arterio-capillary fibrosis, with cirrhotic kidneys, hyertrophied heart, etc.; a tendency to amygdalitis and to atarrhs of the respiratory and alimentary mucous memranes. All these and various other manifestations we see n different combinations over and over again.

In general it may be said that the suggestions regarding iet, exercise, etc., already laid down will again apply here. nly we will have to be more rigid in regard to diet, often o the entire exclusion of all starchy and sugary foods, or ven to putting the patient upon a milk diet alone.

So far I have said little of drugs, but these are, even rophylactically, often of great value.

The importance of keeping the liver in a state of healthy functional activity has already been dwelt on. Many gouty attacks can be warded off by a good dose of calomel, a draught of saline bitter water, or both combined. I have gouty patients who on Saturday nights regularly take a dose of calomel (a two-grain triturate is quite enough), followed on Sunday morning by a small quantity of Hunyadi or Rubinat water taken hot. They then devote their Sunday leisure to the result.

All the salicin compounds, and especially salicin itself, I regard as of the greatest value. They all act upon the liver, causing an increased flow of a more watery bile than normal. To gouty patients who suffer from gall-stones I give tablets of salicin, directing them to take them two or three days out of the week for months. So, too, neuralgic attacks and arthralgias may often be cut short if salicin is taken at their very first appearance and continued for a few days.

I have, I think—though of this I am by no means sure —seen good results from the continued use of lithia waters. Whether equally good results would not have followed the use of plain water I am not prepared to say. All gouty people, unless inclined to be fat or to have a fatty heart, should be encouraged to drink plenty of water. It washes out the system and quickens all the chemical changes.

In the summer a visit to Saratoga, to Richfield, to Sharon, or, if circumstances are favorable, to Carlsbad, or some of the many European watering-places, is highly to be recommended. Of course, we must not delude ourselves with the idea that the good results obtained are due solely to the medicinal qualities of the waters drank, for the same waters taken at home are often of comparatively little benefit. That many of them have a directly remedial action there can be no doubt, but the good effects upon patients of going to watering-places come not from the number of grains to the gallon, in the water drank, of this or that salt, but from what I have already insisted upon as so potent a factor in effecting a cure—namely, the change to which they are subjected. Change of air, change of diet, change of thought, change from the every-day petty cares of life to a life of freedom—all these are powerful remedial agents often impossible to enlist in our service at home, but which come without effort there. In Europe there is this advantage, that everything at a place like Carlsbad, for instance, is made subordinate to the interests of the patient—everything is done to make life easily agreeable—whereas, say, in Saratoga, whose waters are unrivaled, the patient is of secondary importance—style and fashion coming first.

Here let me close. Already my theme has carried me far beyond the limits of time I had originally contemplated and still I feel much more remains to say, much detail that might be elaborated. But what I have attempted has been not so much to lay down specific directions as to give you the broad and general outlines of what the prophylactic plan should in my opinion be. The details each must elaborate for himself. Only this let me say: Study your patients' inner natures well. Learn their likes, their dislikes, their habits of thought, and the gauge of their mental caliber, their aspirations and their interests, for it is this knowledge of their psychic natures which in its application often makes that subtile difference between success and failure.

GRIPPE OR DENGUE?

By JOHN S. ELY, M. D.

Many problems of interest are associated with every epidemic. The various questions connected with its cause, its mode of extension, the peculiar meteorological conditions which may or may not conduce to its spread, the symptoms by which it makes known its presence, its prognosis, and its treatment—all at such a time receive much careful attention. It is seldom that doubt as to its character exists, yet one of the most interesting questions connected with the epidemic which has so recently swept over Europe and is still rapidly progressing in the western part of this country relates to its identity. While the majority of physicians have unquestioningly accepted the idea that the disease is influenza, a few have been inclined to regard it as the dengue, or a modified form of it. In Paris this opinion, adopted by Dujardin-Beaumetz, found so much support that the Académie de médecine was led to appoint a special committee to investigate its claims, and in Berlin it has been countenanced by no less an authority than Leyden. In England and this country the same belief has found expression in the daily papers and among the profession. Knowledge of the fact that dengue "has been raging as an epidemic over the whole eastern coast of the Mediterranean from Alexandria to Constantinople since early in August" (1) has probably contributed to the establishment of this belief. It is to a short discussion of this question that I ask attention.

The identity of an epidemic disease rests upon two groups of data—those connected with its symptomatology and those derived from a study of its natural history—by which I mean its distribution, the season at which it occurs, its mode of progress, contagiousness, mortality, etc. To enter intelligently upon this discussion, therefore, we must be possessed of a clear idea of the features, epidemiological and clinical, which characterize the prevailing epidemic.

As far as is at present known, the first cases of the disease were observed early in October in Vjatka (2), one of the most easterly provinces of Russia. A little later others were reported from the Caucasus, and about the middle of October the disease is said to have prevailed in Tomsk in western Siberia. Early in November it was observed in St. Petersburg, where the succeeding six weeks saw it reach an almost unprecedented diffusion, more than half the community being supposed to have suffered. From St. Petersburg the epidemic rapidly progressed over western Russia and eastern Germany, and toward the end of November cases began to be reported in Berlin. Early in December Paris was reached. The cities of central and southern Germany, Austria, and France became in turn the scene of its visitation, and about the middle of December many cases were reported from London, and, a few days later, from other cities of England. At the same time cases began to be noticed in New York. It is unnecessary to speak in detail of the rapid progress of the epidemic over this country; its outbreak in Boston, Philadelphia, Washington and Canada, and its steady progress westward are only too familiar to all. In Europe, in the mean time, it has extended to Holland, Sweden, Denmark, Switzerland, Spain, Portugal, and Italy, and has recently crossed the Mediterranean into northern Africa. Thus it will be observed that the present epidemic is distinctly a disease of northern origin, appearing in the southern states of Europe only as an extension from the more northern.

This is a distribution frequently observed in epidemics of influenza, never in an epidemic of dengue. The pandemic which swept over Europe in 1781–'82 ran an almost identical course (3). Starting in China and India in the autumn of 1781, it reached Siberia and eastern Russia in December, and St. Petersburg in January, 1782. Finland, Germany, Denmark, Sweden, England, and Hungary were its theatre during the next three months. In May it prevailed in Scotland and southern Germany, reaching Holland, France, and Italy in June, and Spain in August. This epidemic did not cross the ocean. The epidemics of 1732–'33, 1830–'33, and 1855 ran much the same course, all of them, however, reaching the Western Hemisphere, the first two the United States; the other, Brazil. Of the lesser epidemics the majority have occurred in the northern countries of Europe, though the occasional appearance of an epidemic in the tropics shows the influenza to be a disease restricted to no particular climate.

Dengue, on the contrary, is a distinctly tropical disease, occurring between the parallels 33° N. L. and 24° S. L. On three occasions only has it entered Europe, and then only southern Spain (1764 (4), 1784 (5), and 1866 (4), when it prevailed in Cadiz and Seville). Notwithstanding the occurrence of frequent epidemics in our Southern States only once has it come as far north as Philadelphia (in 1780, when Rush (6) gave the first description of the disease, calling it bilious remitting fever). Unlike influenza, which is a disease of more frequent occurrence in winter, dengue occurs almost without exception in the summer months, its progress being stopped by frost (7); and it is of limited distribution, being almost invariably confined to the seaboard.

So far, then, as study of the epidemiology of the two diseases can help us in the decision of this question, the weight of evidence is strongly in favor of the view that the present epidemic is influenza. Let us see whether its clinical features bear out this conclusion.

As observed in New York, the disease has been characterized by acute onset, with sensation of chilliness in many cases, rigors in a few; by headache, backache, and general myalgia, often very severe; by a certain amount of fever; by marked prostration and mental depression; by cough, usually the result of bronchial catarrh; by anorexia, and often nausea; by the presence of certain nervous symptoms of rather indefinite character, among which I would class the lacrymation and profuse sweating observed in some cases; by frequent complication by broncho-pneumonia; and by rather slow return of strength during convalescence. Coryza, though present in many of the more severe cases, has been rather conspicuously absent in the majority. As in all epidemics, much variety has existed in the combination and severity of these symptoms. Probably the most constant have been the annoying muscular pains, the cough, the mental depression, and the extreme prostration—out of all proportion with the severity of the other symptoms—disinclining the sufferers to all bodily or mental activity and in some cases leading to faintness or even syncope on but slight exertion. Eruption, severe pain with stiffness and effusion in the joints, and glandular swelling—all symptoms described as most constant in dengue—have not come under my observation.

In Europe, so far as I am able to ascertain, the symptoms have been substantially the same, although it is said that eruption has been present in some of the cases.

It will be observed that the three symptoms of dengue which may be considered most characteristic (eruption, articular pain, stiffness, swelling, and glandular enlargement) have been absent in the present epidemic. On the other hand, there has been no symptom observed with any constancy which has not been frequently described in previous epidemics of influenza. All authorities recognize very decided differences in the symptomatology of different epidemics of influenza. As a result of this, it is not uncommon to meet with descriptions of various types of the disease. Thus Toulmouche (8), writing in 1847, just after a widespread epidemic of influenza, alludes to two distinct types of the disease—"the one affecting mainly the nostrils, larynx, and throat; the other the gastro-intestinal and pulmonary mucous tracts." In the present epidemic the symptoms appear to belong to this second type.

During the present epidemic much uncertainty as to diagnosis has resulted from the very frequent occurrence of cases in which general pains, headache, backache, mental depression, and loss of appetite and strength have been almost the only symptoms. It is even now questioned by some whether these belong to the same disease as the more pronounced cases, and in the indefiniteness of symptoms pointing to affection of the mucous membranes it is natural, in view of the intensity of the pains, that a relationship with dengue should have been inferred. Such abortive cases are, however, an almost constant accompaniment of every epidemic of influenza. Thus, we read in the article on Influenza by Wilson in Pepper's System of Medicine (9) that "in every epidemic . . . a considerable part of the community suffers from influenza in the mildest, or what has been called the rudimentary form. This is characterized by general malaise, an easily oncoming weariness upon bodily and mental effort, a disinclination for business, some inability to fix the attention and slight mental confusion; to these nervous disturbances are added catarrhal symptoms, as coryza, sore throat, a tickling cough, and the like, but the indisposition is subfebrile."

It has been said that the most constant symptoms of the recent epidemic have been annoying muscular pains, cough, mental depression, and extreme prostration. Let us pass hastily in review each of these symptoms in so far as it bears upon the diagnosis of influenza and dengue.

Myalgia, headache, and backache are symptoms common to both diseases, and may be so various in different cases that no conclusion as to diagnosis can be educed from them. Intense pain, stiffness, and effusion in the joints are, however, symptoms so constant in dengue (10) (no epidemic has been observed in which they were not present in the majority of the cases) that their entire absence in the present epidemic is of much diagnostic significance. They appear early in the disease, the small and large joints being equally liable to attack, and are apt to last long after the subsidence of other symptoms, causing convalescent patients to hobble about in the ridiculous manner which has suggested the names "break-bone" and "dandy fever."

Cough, though an occasional accompaniment of dengue, is rare in that disease, and is generally to be considered the result of coincidence rather than an integral part of the disease. Its constancy and severity in the well-developed cases of the present epidemic have been noticeable, and the frequent occurrence of broncho-pneumonia as a complication—an accident of which I am unable to find mention in connection with dengue—compel me to consider cough in this case to be diagnostic of influenza.

Great prostration and mental depression have been most noticeable symptoms of the present epidemic. While these are symptoms described as occurring in dengue, they are seldom in that disease so strikingly disproportionate to the severity of other symptoms, yet this very character is mentioned as an almost constant phenomenon in epidemics of influenza. Thus Walshe (11) describes "excessive depression of spirits, and an amount of debility and prostration totally out of proportion with the local symptoms (syncope sometimes occurs in the erect posture)" among the constant symptoms of the disease.

The fever which has been observed during the present epidemic has been of the remittent continuous type, has lasted from two to four or five days, and the thermometer has rarely in uncomplicated cases registered more than 103°. In this particular, also, the disease as observed in New York differs from the dengue while still in conformity with the clinical picture of influenza. The fever in well-marked cases of dengue follows a rather characteristic course (12). Rapidly rising at the onset of the disease to 104° or even higher, it almost as rapidly falls within twenty-four or thirty-six hours to normal, remaining normal thereafter unless a relapse interrupts the progress of convalescence.

Finally, the very considerable increase in death-rate attendant upon the present epidemic speaks decidedly in favor of the identity of the disease with influenza, epidemics of dengue being hardly ever accompanied by any appreciable increase in mortality in the localities affected by them.

As the result, then, of our study of the epidemiological aspects of the present epidemic, and of the clinical features which it has presented in New York, we are led to the conclusion that it is to the influenza that we must attribute the widespread discomfort of the past five weeks.

January 22, 1890.

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THE PRESENT EPIDEMIC OF INFLUENZA.*

By LOUISE FISKE BRYSON, M. D.

Ever since the year 1510 epidemics of influenza, distinctly recognizable as such, have visited various parts of the world. Parkes traces the disease to the ninth century; and it is probable that grippe formed one of the plagues of the earlier ages, giving rise to the expression "God help us!" uttered after sneezing, because those attacked died too quickly to expect aid from any human means.

There were five epidemics of influenza in the sixteenth century that are recorded, eight in the seventeenth, and thirteen in the eighteenth—in 1709, 1729, 1732, 1737, 1744, 1751, 1761, 1769, 1772, 1781, 1789, and 1798. Our own times have had their share—in 1803, 1805, 1830, 1833, 1836, 1837, 1841, 1847, 1848, 1879, 1880, and 1889–'90. It is estimated that the disease returns on an average about once in ten years. Its duration is usually from four to six weeks, though it may last nine or ten months. The present unpleasantness appeared in St. Petersburg about the fourteenth of November. Advices from the Caroline Islands state that the epidemic makes semi-annual visits to Ponape, and now prevails on all the Marshall and Caroline Islands, one hundred or more, extending from east to west about a thousand miles. The influenza there presents two distinct classes of symptoms—one in which fever and pain are the chief symptoms, while the other manifests itself in nasal trouble and cough. It is not uncommon for a victim of one class to have another attack during the same epidemic of the other form. Grippe in Ponape does not differ materially from our own, except that some stress is laid upon terrible pains beginning over the region of the heart—pains over an area the size of a silver dollar at first, which chase each other in wave after wave, never catching up, and expanding in equal proportion until the affected spaces are as large as saucers. This corresponds, in regard to the character of the pain, very nearly to another epidemic disease that will be considered farther on.

Influenza is said to be the precursor of cholera; and in some instances this has been the case. While the disease is no respecter of persons, it seems to prefer the rich to the poor, and is often very kind to children. Those who are much in the air and exposed to outside influences are more liable to attacks than others more protected. The weak and the aged are therefore advised to stay within doors, except for necessary exercise. First women are attacked, then men, and lastly children. The mortality is about two per cent. In view, however, of the immense numbers attacked, this small percentage is sufficiently appalling in point of actual death-rate. The prognosis is good, barring certain conditions that equal numerically the exceptions to a rule in French grammar. Many intercurrent and pre-existing maladies are gravely affected by grippe. Among those unfavorably influenced in marked degree may be mentioned phthisis, emphysema, diseases of the heart and kidneys, neuralgia, and other chronic nervous affections. One seizure does not secure immunity from a second, as has been stated; and certain highly unfavored individuals have succumbed several times during the same epidemic. It is very probable that the morbific principle, whatever its nature, is not limited to man. Epizootics very similar to the epidemics in the human family have frequently prevailed among domestic animals, especially horses and dogs, and have been known to attack birds. Such conditions often exist simultaneously with or immediately precede epidemics of influenza. It is said that this year an epizootic among horses preceded grippe in London. The epidemic is not connected in any way with climate, soil, elevation, or any known local terrestrial cause. The mountains of Cathay, the waters of the Nile, the Swiss lakes, the English downs, and the broad American prairies have all been visited by this rude and unceremonious guest. In Europe its starting-point is thought to be the far north. Some have asserted that it originates in Asia, especially in Tartary, though China has also been alleged as its birthplace. Later research would seem to indicate that the epidemic influenza is really Russian, having its point of origin in the plains about Ladoga and Onega. It is also said to germinate in North America, at or about the Great Lakes, and along the banks of the river St. Lawrence.

The epidemic, once started, spreads out in fan-like expansion from the lakes of northern Russia, from northeast to southwest, and travels with a rapidity equal to the speed of a good horse. The influenza epidemic of 1782 made the distance from Königsberg to Berlin—ninety-six Prussian miles—in about four days. Within eight hours after its arrival in any given place, one third or one half the inhabitants may become its victims. It attacked the entire population of Nismes in one day, with scarcely a single exception. *La grippe* reached Venice at night in 1640, and by morning one half the population had been attacked by it. Shops and colleges were closed, streets deserted, and a death-like stillness pervaded the usual busy thoroughfares.

That the disease is infectious is not assured. The evidence in favor of its contagiousness is, in a way, too forcible to be disregarded. It is a matter of history that the epidemic in Paris began in the streets around the Russian embassy; and the Marquis of Salisbury attributed its early occurrence at the foreign office in London to the dispatches received there. Yet this mode of communication—contagion—is not an essential factor in its propagation, for it attacks vast regions at once, descends upon remote and isolated habitations, and clutches sailors on shipboard in mid-ocean. Forry, writing in 1843, thinks we are warranted in placing influenza very low in the scale of contagiousness.

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The history of the present epidemic is the history of all past epidemics. However great certain other discrepancies among earlier authors, whose quaint ambiguities are often sufficiently fantastic, the main characteristics of grippe in their records are distinctly those of the present time. Ambroise Paré, writing in 1562, speaks of that "famous *Catarrh* with difficultie of breathing, which in the year 1510 went almost over all the world, and raged over all the cities and towns of France, with great heaviness of the head, with a straightness of the heart and lungs, and a cough, and a continued fever, and sometimes raveing. This, although it seized upon many more than it killed, . . . showed itself pestilent by that violent and peculiar and unheard of kind of malignitie." And afterward Sydenham, treating of the epidemic cough of 1675, thus describes the grippe of to-day: "It scarce suffered any one to escape, of whatever age and constitution he were. Nor was it remarkable only for the numbers it attacked . . . but also on account of the danger that attended it. . . ." There was no other epidemic existing, he goes on to say, which, by its opposition, might in some measure lessen the violence of epidemic cough. The symptoms were pain in the head, cough, fever; and then the development of pulmonary trouble. "The cough assisted the constitution in producing the fever," says Sydenham, "so the fever on this account attacked the lungs and pleura, just as it had affected the head the week preceding this cough; which sudden alteration in the symptoms occasioned some, *for want of sufficient attention*, to esteem this fever an essential fever or peripneumony, though it remained the same that it had been during this constitution." Its sudden onset and often critical termination, its general seizure, the severe nervous symptoms, the decided disposition to cough with only a proportionately slight increase of the secretion of the mucous membrane—all these are in favor of the view that epidemic influenza is a profound disturbance which rapidly affects the organism at large. Handfield Jones affirms that nervous phenomena are sometimes the only evidences of grippe. Graves notes the absence of fever in many cases that terminated fatally. He states that several of his friends and himself had coryza, hoarseness, cough, and pulmonary irritation without fever. In a short treatise on influenza as it occurred in Birmingham, Dr. Peyton Blakiston announces that his researches have led him to the conclusion "that influenza is an affection of the nervous system, with its concomitant derangements of the organs of digestion, circulation, respiration, etc., commonly known under the name of nervous fever, accompanied throughout its whole course by irritation of the pulmonary mucous membrane, which not infrequently amounts to congestion and even inflammation." The so-called complications, such as bronchitis, pneumonia, peritonitis, etc., may reasonably be considered a part of the original disorder expressing itself along lines of least resistance.

A writer, Forry, in the New York Journal of Medicine for July, 1843, gives the usual early symptoms of grippe as it manifests itself to-day, always has manifested itself, and possibly always will:

"It commences with slight chills, amounting sometimes to shiverings and alternate flushings of heat, with languor and sense of extreme weariness; then soreness over the eyes, or pain in the course of the frontal sinuses; these are quickly followed by frequent sneezing, a copious discharge of thin, clear fluid from the nose and eyes, sometimes so acrid as to excoriate the upper lip; heat and soreness in the top of the larynx and œsophagus, and along the course of the windpipe, with hoarseness and dry cough; sense of stricture in the chest, and difficulty of breathing, sometimes attended with darting pain in the muscles subservient to respiration; weight and anxiety about the præcordia; flying pains in the back, knees, calves of the legs, and various parts of the body; depression of spirits, and sudden and extraordinary prostration of strength. The tongue is mostly covered, at an early period of the complaint, with extremely white mucus, like cream."

The pulse, 90, 100, 120, is weak and soft, intermittent frequently, and very changeable. Graves observed that it is often completely changed in from six to eight hours; and he adds that he has always taught that the pulse indicates irritation of the nervous system more than anything else. The urine is diminished, sometimes suppressed, and is invariably of a high specific gravity that is not warranted by the degree of fever. There is restlessness, sleeplessness, or sleepiness. When the fever is high at first, it is said that the disease seldom becomes chronic—that is, it begins according to the classical description given above, runs a light course, and gradually disappears, the intense weakness soon wearing off.

The following typical cases of grippe, from the records of a conservative hospital where only conventional symptoms are allowed to be christened epidemic influenza, illustrate one view of the disease and of its treatment:

John C., aged thirty, on January 3d became prostrated by sudden rigor, followed by fever, headache, and general pain. Had slight cough. Temperature on admission, January 8th, 102·5°. Physical examination negative. Treatment: cathartic, quinine, and antipyrine. Discharged, cured, January 13th.

Robert S., aged thirty-seven; for three days had had headaches, pains in back and limbs; also numerous paroxysms of sneezing and dry cough. Been hot and cold by turns. Physical and urinary examinations negative. Highest temperature, 101·5°. Treatment: calomel, quinine, and antipyrine. Discharged, cured, in three days.

William S., aged fifty; pains in head and in bones, slight cough, bronchial irritation, and feeling of general prostration. Physical and urinary examinations negative. Highest temperature, 102°. Treatment as above.

Thomas M., aged thirty-four; three weeks earlier, caught cold, had cough, sweats, headache, pains in the bones, and profuse expectoration. Temperature on admission, 99·8°; rose to 101·5°. Physical examination: subcrepitant râles;

otherwise negative. Urinary examination negative. Treatment: antipyrine and cough mixture.

Giuseppe C., aged thirty, great weakness, nausea, loss of appetite, no chills, but a feverish feeling. Complained of pain on micturition. Physical and urinary examinations negative. Treatment as above. Discharged, cured, three days after.

Lizzie A., a young girl, three days ago had pains all over, and several rigors followed by rise of temperature, this, on admission, being 102°. Appetite lost; bleeding from nose; chronic tonsillitis. Treatment: cathartic, followed by antipyrine. Well in three days.

Some have thought—Dujardin-Beaumetz among the number—that the present epidemic is a form of dengue. Others, that it closely resembles, in the earlier stages, cerebro-spinal meningitis. Comparison reveals certain similarities among these three morbid entities, and marked differences as well. The specific cause of each and all has thus far eluded discovery. Their appearance, according to the mass of testimony, is dependent in greater or less degree on vicissitudes or anomalies of weather, on fogs, winds, heavy rains, or some peculiar electric condition of the atmosphere. Cerebro-spinal meningitis has prevailed the same year that epidemic influenza was doing its work elsewhere. It prefers the poor to the rich, and children suffer most severely in point of susceptibility and mortality. No age is spared, and men are oftener attacked than women. The three diseases generally begin abruptly and strike their victims down, like a thunderbolt out of a clear sky, although slight prodromata may have passed unnoticed. Dengue and epidemic influenza bear such a close relationship that it is reasonable to mistrust they are first cousins. They spread with equal rapidity, and present many symptoms in common. There is the same sudden loss of strength, of appetite, and of mental force. There are in each frontal pains, conjunctivitis, and the quick appearance of emaciation. Certain cases of pregnancy result in abortion, and little children are liable to convulsions. The pain of dengue is something that is never forgotten, and described as the sum-total of human suffering. So also are pictured the headaches of grippe, even by women familiar with the pangs of childbirth. In dengue there is pain everywhere—pains fixed, fugitive, lancinating, boring, contusive, and bruised—bad when the patient is quiet, and worse when he moves. There are but few diseases, influenza excepted, that express themselves in so many ways as dengue or are subject to such serious complications and sequelæ. The nervous centers suffer very much in severe forms, and the mild ones often present cerebral lesions and neurotic complications. Subsequently pulmonary abnormities can often be traced to dengue. A troublesome cough in the earlier stages may remain and annoy long after the fever has subsided. In Bengal, dengue was supposed very frequently to develop into a form of phthisis; and in America and India a peculiarly obstinate kind of ulcerative sore throat has followed in its train. The most striking similarity of the two diseases is the fact that, though the sufferers are cured, they do not always get well. As remote causes of death, these two epidemics form interesting subjects for future investigation. The course of dengue is divided into three stages, as follows: First, febrile access, lasting two to three days, beginning with lassitude, drowsiness, chilliness, pain in the bones and about the joints, sleeplessness, cream-like coating of the tongue, nausea, anorexia, and a temperature of 102° to 104°, sometimes higher. Then comes an intermission of one, two, or three days' duration. After this the second febrile stage arrives, characterized by an eruption of which some half dozen varieties are recorded. Convalescence is marked by great weakness, emaciation, and sometimes by a more or less persistent affection of the joints. Persons on first getting up, as in grippe, say they feel worse than any time before in the whole course of their existence, so great is the prostration and weariness. Dr. John E. Bacon, who reported the epidemic of dengue in Columbus, Ga., in 1886, looked upon the disease as situated in the nervous system, including, of course, its greater center, the brain. He did not consider it an inflammation, but a peculiar morbific effect produced by an unknown poison.

Stages resembling the three stages of dengue are often present in grippe. It may be assumed that many of the so-called relapses after apparently light attacks are merely the presence of the third stage of influenza following the period of remission. One case will illustrate this:

B. L., aged fourteen; chill; temperature, 104°; pulse, 120; complete and sudden loss of strength. Milk, quiet, and ten grains of calomel removed all symptoms in about two days. The patient got up, and made fair use of a Christmas vacation. In about three days a sudden cough, a rise of temperature to 102°, with a weak intermittent pulse, an erythematous eruption across the chest, and pain in the joints of the lower limbs, sent the child to bed again, where she remained for two days. The eruption, which caused intense itching, remained some time longer, and the pain in the feet came and went for several days.

Mild attacks run their course in from four to seven days, under the use of diaphoretics and a regulated diet, without the development of any second fever. In cases marked by gastric irritation and depression of nerve vitality, the disease lasts from twenty-one to twenty-eight days. The final termination is either by disappearance of the symptoms—local as well as general—or by some critical crisis, such as an increase in the secretion of mucus, of urine, sudden perspiration, or diarrhœa. When death occurs, it may be due to one or all of the following causes: (*a*) To paralysis of the lungs and to capillary bronchitis, especially in the aged: (*b*) to pneumonia; (*c*) to cerebral congestion, to apoplexy resulting from violent coughing, or to profound exhaustion of the nerve centers.

As to the real cause of the disease any theory is admissible, since no two experts agree, and whole communities are at variance in regard to it. There are food diseases, house diseases—why not air or electric diseases? Epidemics of influenza may be due to some astronomical influence that upsets temporarily the normal electric equation. Certain physical phenomena, quite capable of altering in marked degree atmospheric electricity, have preceded and accompanied the present epidemic. Among these are earthquakes and excessive humidity. Earthquakes may produce extraordinary phenomena, the modes of motion—heat, light, and electricity—being correlated to each other and to mechanical motion or the motion of matter in the mass. The generally accepted theory of earthquakes at present ascribes the cause to terrestrial gravitation or condensation of the earth, by which the mass moves slowly toward the center. This motion is partially arrested by the resistance of matter to further condensation, and so molar motion is converted into molecular motion, manifested as heat and electricity. Evaporation being the source and some impurity in the water a necessity of air electricity, the conditions favoring an increase of this fluid have greatly prevailed of late. In seasons that do not swerve from their regular course the wastes of the summer are gathered into the soil in the fall, and, there decaying, are carried away and neutralized if the ground be dry and air can find its way into it. But where water is, air can not penetrate. Remove the water, and air follows, forced by the pressure of fifteen pounds to the square inch, carrying with it the warmth of the sun, purifying, vivifying, and vitalizing the ground. Heat, moisture, and impurity are necessary elements in the production of infectious disease, though neither of the three, or the three combined, can create the morbid fitness needed for its appearance and propagation, unless there is present a fourth constituent, which thus becomes the essential factor. This something may yet be found to be an altered condition of atmospheric electricity, capable of causing corresponding derangements of the nervo-electric fluid.* So long as any excess of electricity is neutralized by suitable atmospheric conditions, it remains without injury to health. But if the earth is highly excited negatively, the air being also in high negative tension, the natural positive of the human body having been abstracted and leaving a high tension negative struggling to coalesce with suitable outside fluid, what becomes of poor humanity? It is supposable that the impression of irritant and untoward electricity falls in our present epidemic upon the nerve-centers and upon the pneumogastric nerve, chiefly upon its pulmonary, gastric, and cardiac branches, causing excitation first, then nerve exhaustion or paralysis in greater or less degree, according to the condition of the nerves as to susceptibility, receptivity, or powers of resistance. It is not impossible that this peculiar nervous irritation may produce the phenomena of grippe, and also be the cause of other epidemics that resemble it. The power of wind and wave on healthful and abnormal conditions is of greater moment than has hitherto been recognized and considered.

Successful treatment, like the epidemic itself, always has been, and is, essentially the same. Earlier observers found that venesection, the use of stimulants and narcotics, generally did harm, and therefore wisely gave up such measures. Whatever the course pursued, it is undertaken with the aim of securing three distinct and equally important results: (1) To unlock and stimulate secretion; (2) to counteract the evil effects of nervous exhaustion; and (3) to sustain nutrition during the period of convalescence. Or, to express it quaintly, in the words of an old writer: "To recall the appetite, keep the vessels of the throat open, and to overcome the dejection of strength." To this end, calomel, aconite, tartar emetic, ipecac, valerian, iron, hyoscyamus, camphor, morphine, senega, and lactucarium have held their own in the treatment of influenza. All earlier authorities agree as to their efficacy, and disagree only in regard to dosage. The experience of the past few weeks has justified this claim to first consideration. To this list may be added digitalis, nux vomica, and cardiac tonics. The use of alcohol is interdicted, except for emergencies. Nourishing, non-stimulating diet, the most careful watching, and perfect quiet are essential in the treatment of grippe, which is an insidious, dastardly affair at best, with possibilities of the most harrowing nature. Whoever has an attack should go immediately to bed and stay there five days, in spite of personal sentiment or sensation. He will need many simple things—such as a hot mustard foot bath, a purgative or laxative, milk, cereals, or some standard prepared food—no meat—hot or cold lemonade, Rhine wine and Seltzer—one part to three—Vichy, or some similar drink, the absence of friends (except attendants), and all the peace of mind the situation will allow. Baths, the local application of dry or moist heat, and friction are of great service in allaying restlessness and pain. Twenty years ago Petit advised the application of a few drops of chloroform on wet linen, for the relief of pain about the joints. It has the same effect to-day. Inhalations of steam medicated with camphor, turpentine, or menthol, and of the fumes of boiling vinegar, greatly diminish the sensation of dryness and stuffiness about the nose and throat. Phenacetin in smaller doses than are otherwise required will drive away headache, and bathing the face or temples with *eau de laitue*—an old-fashioned preparation containing lactucarium—is soothing and induces sleep. Great stress should be laid on subduing pain and restlessness. One of the pressing questions of the hour is what to do with those who have had the grippe who are cured but not well. The persistent cough is best treated, according to Schönlein, by ammonium chloride, hyoscyamus, and preparations of lactucarium. Cough so obstinate as to defy remedies—and there are many such—will disappear entirely under the influence of a change of air. Cod-liver oil naturally suggests itself. In point of fact, it is not at all well borne. Malt extract, quinine and coca, and beef, wine, and iron, are of far greater value. The Turkish bath, massage, and electricity are standard resources of peculiar value during convalescence. Diminished chest expansion requires immediate attention in the form of systematized mechanical movements. New impressions in this way may be sent to the brain, and thus is secured an advantageous redistribution of nervous energy. For this purpose the respirator used in the establishment of Dr. Henry Ling Taylor is possibly the best means known. Failing this, the same passive movements made by a trained attendant, according to the rules laid down by Ling, will be of great assistance. An important element in this kind of physical training is the absence of volition on the part of the patient. The chest expansion must be increased for him; he must have nothing to do with the work. While any feeling of fatigue or of perpetual weariness remains, it is folly to undertake the real business of life, for the period of convalesence is fraught with unknown yet certain danger, that is liable to assume a local habitation and a name without a word of warning.

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* See New Orleans Medical and Surgical Journal, July, 1881.

Epidemic influenza exercises a powerful alterative effect upon the whole organism. Paré and more modern writers speak of the liability of pregnant women to abort, and it is known that in girls and women suffering from amenorrhœa the menses return. The foundations of very serious disorders are often distinctly traceable to the depressing influence upon the nervous system of an attack. The rekindling during convalescence of old and fading neuralgias is a curious feature of the disease. Relapses from cold have resulted in insanity, as was especially noted in 1847. Chronic asthma, chronic bronchitis, chronic catarrh, and chronic amygdalitis are frequent sequelæ. Influenza also lights up asthma that has long since died down, and fans into flame the latent vitality of tubercle. Those who doubt that phthisis may have any such starting-point are agreed that phthisical patients remain permanently worse after an attack of grippe. Serious ophthalmia has followed epidemics in France. Possibly the most disastrous results are phthisis and diseases of the mind, as these are wide-reaching in their influence for evil. While not sharing the ultra-catholicity of the school-girl who translated "chacun à son goût" *everybody has gout*, it is possible to affirm with a certain degree of verity that everybody has been more or less the victim, not of grippe necessarily, but of the influences that produced the epidemic. Under their malign sway the cheerful have become irritable, the irritable melancholy, and the melancholy given over to nameless sorrow and leaden-eyed despairs. Physicians and laymen alike have ceased to regard as absurd a disease of such formidable proportions.

"It would conduce greatly to the advantage of medical science if a brief and accurate history were left to posterity of the character, symptoms, pathological phenomena, and treatment of every epidemic. Such a record would prove a guide and beacon to the practitioners of future ages, would enable them to draw important comparisons between the existing and the past, and thus arrive at a more fixed and available knowledge of the nature and habits of epidemic complaints." It has been suggested that if every form of epidemic were noted and the order of its succession marked it would remain to be seen by those who come after us whether there may not be cycles of epidemics. This is not impossible if we suppose that such visitations are connected with telluric or electric influences which are known to observe a periodic course. Were this ascertained, a sort of observatory of epidemics could easily be established in all civilized countries. A *résumé* of each physician's personal experience, carefully and concisely worded, would be a generous contribution to medical literature, and might enable us to know the disease when it comes this way again, which Dr. Macdonald suggests would be rather a good thing.

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A CASE OF TRAUMATIC HEMIPLEGIA.

*OPERATION.**

By CHARLES T. POORE, M.D.

Matilda D., aged three years, was admitted into St. Mary's Free Hospital for Children in September, 1887, with the following history: At birth and up to the eleventh month she was a perfectly healthy child. At that time she fell upon the pavement, striking on the right side of her head. No history of any special symptom can be obtained, but only that she was very ill for some months, and when she got up it was found that she was paralyzed in her left side, except that her face was not involved. In time she recovered to some extent the use of her leg and thigh, so that she could walk about, but she has never regained the use of the arm and forearm and hand of that side. Her parents state that she has never talked intelligibly, using only single words, but was able, in some degree, to express her wants. She has since the accident been excitable, of a violent, uncontrollable temper. She has never had any trouble with her bladder or rectum.

On admission, she is found to be a well-developed child, with rather a vacant expression of face. The left forearm is flexed at a right angle to the arm, and the whole limb is rigid and held across the chest; she makes no attempt to use it in any way. The forearm can be fully extended on the arm by using force, but immediately on releasing it it returns to its former position. The fingers of the left hand are held in a semiflexed position and are in the same condition in regard to rigidity as the parts about the elbow joint. During sleep the same position is maintained. There does not seem to be any diminution of sensation in the parts. There is no paralysis of the face or tongue. There has been no spasm of the muscles of the limb noticed at any time since she has been under observation, nor can any history of such a condition be obtained previous to her admission. The muscles do not seem to be much, if at all, atrophied, but the parts are rather cool and the skin at times is dusky. While in bed nothing peculiar is noticed about the left lower limb, but when she is up and walking she drags this limb a little (hemiplegic gait). Her mental condition is undeveloped. She can say a few words, but not sentences. She is excitable, passionate, and when so, utters a peculiar cry and throws anything she may lay her hand upon at the person who has angered her; but even at such times does not make any attempt to use the left arm. She complains of no pain in her head, and pressure upon the point of injury has no effect upon her condition. She is active and quick in her movements. Pupils are normal.

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* Read before the New York Surgical Society, December 11, 1889.

On examination of her head, there is found a depressed fracture of the skull over the right parietal bone. The parts give the impression as though a piece of bone had been punched out, leaving sharp edges. The depression easily admits the end of the finger, and on pressure there is a feeling of resistance at the bottom, as though the finger came upon bone. The depression was situated over the fissure of Rolando, at a point corresponding to the center of motion for the leg and arm. Accurate measurements were taken at the time, but I regret to state that they were lost. Dr. M. A. Starr kindly saw the case with me, and confirmed the opinion above expressed as to the location of the injury.

After shaving the scalp, it was found that pulsation existed over the point of injury, and the soft parts were raised above the level of the scalp about a quarter of an inch. At the time of first examination and until the hair had been removed no pulsation had been detected; it may have been from too hard pressure being applied. From the limbs affected it was evident that their condition was due either to a piece of bone pressing upon the brain, or some secondary condition following the injury. The child was kept under observation until January 12, 1889; on that day she was etherized. The question was between a traumatic aneurysm and brain pulsation as the cause of the rise and fall of the parts over the point of injury, for it was then supposed that a different condition existed than what was subsequently found. Pressure around the point did not control the pulsation. An incision, semicircular in shape, with the convexity downward and forward, was made and a flap raised, including all tissues down to the bone, until the edge of the depression was reached. The pericranium, or rather the tissue immediately over this point of injury, was intimately blended with the thick, firm, fibrous membrane closing over the aperture in the skull. The latter was strongly attached to the edges of the depression. This cicatricial tissue was gradually worked off until it became very thin, and then a hypodermic needle was thrust into the swelling and about half a drachm of clear fluid drawn off. Fluid of the same character subsequently continued to flow from this opening, until it was estimated that about two drachms or more had escaped; it then ceased to flow. On detaching the fibrous covering of the depression, an opaque membrane was discovered, over what was supposed to be the covering of the brain; a probe passed into the cavity could only be made to traverse a short distance, giving the impression that it was in a distinct sac. The appearance was as though the upper wall of the sac had been formed by the connective tissue covering in the skull, and this, having been removed, opened into a sac or cyst having for its floor either the dura mater or connective tissue similar to that above. No brain substance could be seen. From early in the operation the child's pulse became almost imperceptible at the wrist, her respirations weak and shallow, and her face blue, and, notwithstanding the use of hypodermics of whisky, her condition did not improve much, and further examination became impossible. With the finger no depressed bone could be found in any direction, but it must be added that the examination was very imperfect. The opening in the skull was irregular—about an inch by three quarters of an inch in size. There certainly was no bone directly under the point of injury, unless it was deep in the brain. The boundaries of the depression were on a level with the rest of the parietal bone. There was an irregularity in the parietal bone, running a short distance from the edge of the depression, resembling somewhat a suture. This was thought to be the remains of an old fissure of the skull, due to the traumatism. The hæmorrhage from the soft parts was well controlled by the use of a rubber band placed tightly around the head. The wound was united with catgut, a horsehair drain was used, and gauze and a bandage were applied.

January 13th.—Patient passed a comfortable night. The discharge had come through the dressings, and they were removed and fresh ones applied. Temperature at 1 P. M. 100°, and at 4 P. M., after redressing, normal. The wound looked well. Drain removed. Patient is bright and makes no complaint; she can move her left arm; there is no rigidity.

The child often rubs the left arm and hand, or wants some one to do it, as though there was some abnormal sensation in it.

14th.—Passed a good night and is bright this morning. Temperature 99°. Use of left arm improving. Temperature rose by noon to 101°. Is sitting up in bed playing with her toys.

15th.—Does not seem as well. There is some suppuration from the wound. Temperature keeps above 100°. Arm still continues to improve. In the evening, temperature 103°. Had convulsion limited to left side, but more marked in arm than in leg; seems rather dull. After the more general convulsion had passed off the fingers were continually in motion, being rapidly slightly flexed and extended. Saw her at 10 P. M.; temperature was then 103°. Fingers still in constant motion. The limbs on the left side were not rigid. There was some slight trembling of forearm, which was held in a slightly flexed position, the arm being extended at the shoulder at an angle of about forty-five degrees. Pupils equal. The patient is semi-unconscious; face very pale. She was taken to the operating room and the dressings removed; two stitches were taken out and a director passed up to the lower point of the depression and the parts under the flap were thoroughly irrigated with mercuric solution. On raising the flap, the spasmodic actions of the fingers immediately diminished and within an hour entirely ceased. During the cleansing of the wound and necessary manipulation the child made no complaint, so profound was the stupor. Horsehair drain replaced.

Immediately after being placed in bed the temperature was found to have fallen to 100°, and after the dressing the pupils were found to be a little dilated.

16th.—Passed a good night. Spasmodic action of fingers has not returned. She does not move her left arm and hand as well as she did. Temperature 101°, and at noon 100°; is brighter than she was early in the day, but is still a little heavy. Passes water well and bowels have moved.

10 P. M.—Has continued nearly in the same condition all day except that she is a little brighter. She talks some, but is annoyed at being disturbed.

17th.—Is sitting up and playing with her toys. Temperature 100°. The left arm, forearm, and hand are more paralyzed than at any time since the operation, but she is still able to move the limb with an effort. Most of the time, however, it lies motionless on the bed. There is no rigidity. There is no discharge from the wound. Temperature in the evening 99°.

18th.—Temperature normal, and from this date her condition gradually improved. In time she began to use words better and connected. The condition and use of arm and hand improved, so that she could use the limb. When she first was allowed to be out of bed she walked badly, but in a short time was able to run up and down the ward without difficulty.

The thumb and index finger of left hand have not improved as rapidly as the other finger. In March there was still considerable stiffness remaining, and she did not use them as well as the rest of the fingers; they could neither be extended nor flexed beyond a certain point, and were still held in a slightly bent position. In March the right hand and arm were bound to her side in order to force her to use the left limb more.

In June she was sent to Rockaway; at this time her condition was as follows: There is still some slight dragging of left leg, but scarcely perceptible. She uses the left arm and forearm and hand well, but the index finger and thumb are still a little stiff, although she can pick up a pin from the floor with them. There is no rigidity except in the fingers mentioned above. Her mental condition has greatly improved and she can talk well, but not as well as is usual with a child of her age. There is pulsation at the point of injury, but the parts are not raised above the level of the rest of the scalp, as was the condition before the operation. She is still excitable and not easy to control, acting more like a spoiled child. Her general condition is good.

At Rockaway she did not seem as well—looked pale. In August the left foot seemed to drag more in walking.

After being at Rockaway for some time she became more irritable and hard to manage. Her left leg began to drag more in walking, and she did not use the left arm and hand as well.

During the first week of August she suddenly complained of pain in her chest; got quite pale. The pain passed off in a moment, and, after remaining quiet for a short time, she resumed her play.

August 13th.—She suddenly screamed out and complained of momentary pain in her chest.

19th.—While sitting quietly in a chair she suddenly screamed out, and it was noticed that the left arm, forearm, and hand, and lower extremity were convulsed and the mouth twitched; this convulsive attack, confined to the left side, is said to have lasted about ten minutes. After the attack had passed off she was very drowsy for some time.

On September 2d she had three attacks, and again on September 3d. She had no more attacks for two weeks. Since October until she was taken away from the hospital she has had quite a number of seizures. She will go five or six days without any, and then she will have several a day for two or more days.

At the time of her removal from the hospital (her parents refusing to have anything further done) she had gained much in her mental condition, notwithstanding the increase in the frequency and number of the convulsive-attacks. Her ability to use her left arm and hand had improved so that she was better in these respects than at any time since the operation. She talks as well as is usual with a child of her age.

It is to be regretted that a more perfect history of her condition immediately after the injury could not have been obtained. What became of the depressed bone is a difficult question to answer; whether it was driven deep into the substance of the brain and is still imbedded, or whether it has been absorbed, could not be ascertained on account of the alarming condition of the patient during the operation. That it was not immediately below the point of injury, so that it could be felt by the finger, I am certain. Whether a piece of bone of the size represented by the loss in the skull could be absorbed and thus disappear I do not know. Perhaps the experience of the members of the society may be able to throw some light upon this question. That a cyst existed between the covering of the opening and the dura or thickened dura I am well satisfied, and also that the collection of fluid was outside of the arachnoid. The cause of the convulsions limited to the left side was due to pressure, dependent in part upon the compress over the wound and in part from pent-up secretions. I think that an error was made in removing the horse-hair as early as I did.

At the time of her removal from the hospital the troubles for which she was admitted were almost entirely relieved. They have been replaced by other changes in the brain, whose manifestation is Jacksonian epilepsy.

REMARKS ON ANTISEPTIC MEDICAMENTS.

By J. RICHARDSON PARKE, M. D.

In viewing the question of subjective vitality from the surgeon's standpoint, we may rationally add to normal pathological processes the products of specific influences; and whether we embrace the teachings of Müller, that the substances of all morbid growths have their analogues in normal tissue, either in embryo or perfect maturity, or that of Virchow, that the cellular elements of all neoplasms originate in pre-existing cellular structures, matters not, for in either case we are brought into direct contact with the conditions under which we may with most profit and interest investigate the action of our presently known germicides.

In the light of recent science our ideas on the subject of bacteriology are assuming a more definite classis, and when we compare the unfledged theories of fifty years ago with the bold doctrines of to-day—of Koch, Pasteur, Virchow, and others—we can not but feel that grand memorial stones are soon to be raised along the lines of careful thought and scientific research.

Lister, who may be said to have been the first to reduce speculative theory to the realm of practical utility, was in more senses than one the father of the germ theory, which, notwithstanding the hesitancy of some conservative minds, like Da Costa and Hutchinson, is now one of the firmest canons of our faith. They are halting upon the threshold of opinion, while the more restless and aggressive have already passed the portals, and are now viewing the question in the light of dogma rather than hypothesis.

In the mad search for a quinine substitute, born of commercial cupidity rather than professional zeal, has sprung into existence a most astounding array of antiseptic, hypnotic, and antiperiodic medicaments from the phenol group, concerning some of which our clinical knowledge is as yet but vague; and, although every practitioner is daily prescribing phenacetin, salol, antipyrine, acetanilide, pyridine, and sulphonal, I can not but think, in the light of my own limited experience, that each one is as yet susceptible of careful consideration.

Carbolic acid, notwithstanding the growing popularity of its more powerful rivals and its admitted subordinate position in the scale of germicides, has still a very extended realm of usefulness, chiefly by reason of its well-known influence in diminishing peripheral nervous sensibility; for as neither textural nor functional irritability can long exist when nerve influence is withdrawn, and as it possesses, in addition to other valuable properties, that of coagulating albumin and fixing organic matter, while practically inhibiting nerve action, we have in it a remedy occupying a distinct and highly important position. We must not, however, lose sight of the fact that in suspending molecular activity it also paralyzes the function of nutrition, and thus paves the way for a molecular disintegration which is the chief cause of the pathological condition we are endeavoring to arrest. The experience and skill of the practitioner have determined the selective action of the various antiseptics and by this selection have placed the principles of therapeutics and pathology upon fully as exact a foundation as that of the kindred sciences.

Thus, we have a sheet anchor in primary syphilis in the mercuric chloride, the bark alkaloids in the zymosis of malaria, iron in erysipelas, myrtol and resorcin in favus (Bartholow), phenol in sycosis (*ibid.*), quinoline in diphtheria (Sieffert), and the salicylates in typhoid and the yeasty vomiting of sarcina (Reiss, Da Costa, Bartholow), while woorara has lately been advanced as a specific antidote to the virus of hydrophobia. There are yet difficulties in the way of a full and practical understanding of the specific powers of certain medicaments—such as those of the iodides in tertiary syphilis as compared with their utter uselessness in the primary form—which we will do well to consider, and which, to my mind, have not yet been fully elucidated.

With our advancing knowledge of the subject of bacteriology, due to the researches of such pathologists as Virchow, Salkowsky, Koch, Darwin, and Pasteur, we have obtained more certain methods in the recognition of microscopic germs, and, as a sequence, a more intelligent selection of agents looking to their destruction, in the absence of which the practitioner of to-day would be as far afloat on the sea of conjecture as was his predecessor prior to the days of Pringle, who bled, leeched, and purged for malaria, while the bark alkaloids lay undreamed of in the dark recesses of his armamentarium.

As almost half of the idiopathic lesions of our nosology are to-day traceable directly to microscopic blood germs, it may not be deemed either premature or incorrect to assume that ultimately *all* diseases may be found to be but the outgrowth or manifestation of some species of toxæmia, as it has already been almost concluded that the tonic effect, as it was hitherto termed, of a good cup of coffee in typhoid was really the destructive action of the alkaloid caffeine on the *Bacillus typhoideus.*

Mercury, whether ingested or topically applied, possesses, without any question of doubt, the most powerful and unalterable germitoxic properties. It is sure, rapid, and thorough in its action, and for the most part without the remotest influence on trophic function, while carbolic acid, thymol, menthol, and other congeners of the mint family, by their inhibition of nerve action and consequent fixation of organic substance along with extreme insolubility, can hardly be said to accomplish more than a suspension of the septic process, while in a measure they retard Nature in her efforts at reparation.

Naphthaline, thalline, kairine, saccharin and creasote may for all practical purposes be classed with phenol, except with a very much mitigated action, while iodine and its preparations do not properly come under the head of antiseptics, being mere disinfectants and deodorants.

Burdon Sanderson and others of equal distinction have already agreed as to the germ origin of splenic fever, cowpox, scarlatina, the periodic fevers, diphtheria, enteritis, erysipelas, sarcina, etc., attributing them to microzymes and microphytes of different orders; and the recent discovery of the cadaveric alkaloids proves beyond a question the *a priori* existence of an inherent ferment in the albuminous constituents of animal tissue even in health, which invites our most careful and earnest attention. It is owing to this ferment, doubtless, that scorbutic and strumous diseases are so prevalent among what Bartholow calls the "gelatinous children of albuminous parents," and also that wounds received during *autopsia cadaveris* are so little relished by both student and teacher.

M. Fokher has already clearly shown (Comptes rend.) that this peculiar ferment *does* exist and that a section of normal tissue introduced with adequate precautions against extraneous microbic contamination into a sterilized medium is capable of converting sugar into acid and starch into glucose. This is doubtless due to protoplasmic action, since fermentation proceeds even after the closest microscopic scrutiny has failed to detect the presence of any form of micrococci, and, according to Fokher, the only difference between the protoplasmic ferment and that of the microbe is the superior capability for rapid proliferation possessed by the latter. A certain amount of moisture seems to be a necessary condition to the perfect development of these bacteria, which accounts for the greater prevalence of zymotic and strumous diseases in low-lying latitudes, the inhabitants of the more altitudinous regions enjoying an almost perfect immunity from such attacks. Thus the Indian dries his beef or venison on the plains, where with us, under similar conditions, the putrefactive process would undoubtedly quickly supervene.

Mr. Chamberland has specialized the vaporous inhalation of antiseptic oils and has shed considerable light upon the use of remedies hitherto somewhat neglected, while Oppler and Ducksdorf, in experiments upon the *comma bacillus* and other germs with the preparations of caffeine, are paving the way for a fuller accession of knowledge as to the hitherto supposed influence of this drug upon the nervous system. The microbes of pus are found to be speedily intoxicated by the action of caffeotannic acid, and the feeling of exhilaration produced by the so-called paratriptics—tea, coffee, tobacco, alcohol, etc.—may be traceable to their well-known antagonism to one or all of the septic blood germs (Dr. W. S. Searle, North American Review).

While giant strides are making in the science of pathology, while the microscope—that wonderful eye with which we penetrate the mysteries of nature—is constantly opening up some new vista of wonder and interest; while millions of lives have been saved and untold human misery alleviated; while, as Paget beautifully says, disease, the grim skeleton at life's banquet, is being more surely shackled day by day—the broad fact still remains that to the young, energetic minds of the present, while standing, like Newton, upon the shoulders of giants, remains the task of clearing away whatever of *débris* and error still remain, of linking divine purpose with physiological law, of blending the rays of spiritual and intellectual vision, and lifting up both voice and hand, even in the smallest, toward the consummation of that beneficent purpose which the glorious science of medicine ever holds in view.

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THE DECAY OF OBSTETRICS.

About ninety-nine per cent. of those whose calling it is to minister to the ills of suffering humanity and who attend medical societies and read medical journals are engaged in the practice of midwifery, and the obstetric art occupies most of the thoughts and time of the majority of the members of our craft. Midwifery is the vertebral column of general practice. It introduces us to our clients, it places us in most confidential relation with families, and establishes a bond between doctor and patient which is rarely broken. And there is a great deal of interest in the practice of midwifery, and many experiences are met with which it would interest others to hear about. A remarkable feature of our medical society meetings is the scarcity of papers on this very important matter. At large meetings practitioners listen to the wise words of some great professor of the art, and with profit too; but why is it that the general run of the members of a society contribute so few of their own experiences. The columns of our journals but occasionally contain articles on matters relating to the puerperal diseases, while they teem with the doings and sayings of gynæcologists, both great and small. We read, week after week and month after month, about operations and opinions about operations which we shall never be called upon to perform and which, perhaps, we may not even ever have an opportunity of witnessing, while, at the very moment we are reading, the telephone may summon us to perform a much more dangerous operation, and to exercise professional judgment of the highest degree.

The library of the family physician tells the same tale. In this country it is always well stocked. The works on medicine and surgery are there in fresh bindings and recent editions; but the obstetrical department of that library is of ancient date. In many, too many, instances it is represented by the one text-book the owner bought when he was a student twenty or thirty years ago, and perhaps he will tell you that one book is enough for him, he is a "practical" man, and has learned midwifery at the bedside. The knowledge he has picked up since graduation day has been that of experience, supplemented by scraps gathered here and there from the journals. There is no branch of the profession about which men acquire such fixed ideas. Patients get well, and a man hates to change established custom. We can never forget the fight against puerperal diseases made by Dr. Oliver Wendell Holmes and the bitter opposition his views met with. It behooves men practicing midwifery to do their utmost to prevent themselves getting into a routine of ideas, and the proper way to effect such an object is to join freely in discussion with fellow-practitioners, and to contribute and read articles on these subjects, to weigh carefully the evidence in favor of new views, and to give faithful trial to new remedies and procedures, bearing in mind that, of all branches of the medical art, midwifery affords the greatest temptation to fall into a state of self-satisfied routine.

OVARIAN HÆMORRHAGE.

Rollin, in the Annales de gynécologie for November, enters into a discussion of this subject which is at once important and imperfectly understood. It would seem strange that an organ the pathology of which has been studied with such minuteness for so many years and by so many competent investigators should still offer so extensive a field for further investigation. We have the testimony of so worthy a witness as A. Doran that even the histology of the normal ovary has been but imperfectly studied, the statements which have been made concerning it being based largely upon the study of the ovary in animals.

That hæmorrhage from the ovary must be frequent, apart from the physiological hæmorrhage which attends the rupture of every Graafian follicle, is evident to any one who has made even the most superficial study of the vascular arrangement of the organ and the surrounding tissues. It is an organ which is designed for repeated fluxions, but this very fact renders the step from the normal to the morbid an easy one. Rollin considers two principal forms of ovarian hæmorrhage: (1) parenchymatous or interstitial; (2) vesicular. The latter may be subdivided into five varieties: *a*, extravesicular, which may be sufficiently profuse to cause retro-uterine hæmatocele, or even so profuse as to cause death in a few hours or days; *b*, intravesicular, in which the follicle is not ruptured; *c*, slight hæmorrhage into the corpus luteum; *d*, hæmorrhage into a dropsical follicle; *e*, multiple vesicular hæmorrhage, in which several vesicles may become fused, as in certain infectious diseases.

Interstitial ovarian hæmorrhage may be very slight and almost insignificant, or it may be so extensive that the ovary is converted into a mere pulpy mass resembling the tissue of the spleen.

The first variety of vesicular hæmorrhage, the extravesicular, is evidently the most important. That it may be associated with more or less extensive peritonitis and prove fatal is shown by the recorded cases of Scanzoni, Fordyce, and Osler. Who can say that not a few of the cases diagnosticated as retro-uterine hæmatocele are not of such an origin? In intravesicular hæmorrhage or ovarian hæmatoma a small sanguineous cyst is formed. Collingworth reports such a case in which the volume of the tumor was that of an egg. Terrier reports one the size of an orange, and Bœckel has seen one as large as the head of an adult. The wall of the cyst may be of a fibrous consistence, but the microscope will reveal the presence of ovarian elements. The cavity of the cyst is not unilocular, but contains diverticula representing the ruptured Graafian follicles, and the contents are of a tarry consistence. Such cysts are usually attached to the tubes by firm false membranes, and rupture is likely to prove fatal, as shown by the cases of Puech, Prost, and Caresme.

Hæmorrhages into the corpora lutea form small cysts, the contents of which are usually absorbed, leaving traces of pigment behind. Hæmorrhage into dropsical follicles is secondary in character, but the process which is followed in such cases is as yet unknown. Multiple vesicular hæmorrhage has long been recognized, Robin having described it in 1856. The vesicles which are thus encroached upon never result in the formation of corpora lutea, and the contents may be absorbed or there may be rupture and hæmatocele.

Slight interstitial hæmorrhages are very common and may be attended by no symptoms worth noticing, or they may result in the entire destruction of the organ. Rollin speaks in this connection also of the possible rupture of a varix of the bulb of the ovary, a lesion which is the outcome of the ovarian varicocele described by Richet. We believe that the existence of a condition which could properly be called ovarian varicocele was questioned or denied not long since in one of our local societies, but here we have its existence vouched for by no mean authority. Under the head of pathogenesis Rollin divides hæmorrhages of the ovary into two groups—those which have a general cause with infection or intoxication of the entire organism, as from scarlatina, variola, the absorption of phosphorus, antimony, etc., and those in which there is a local lesion of the ovary alone or the ovary and tube. There are many causes which might excite hæmorrhage as a reflex result of hæmorrhage. Among these may be mentioned venereal excesses, traumatisms or other pathological conditions of the uterus and tubes, habitual constipation, repeated pregnancies, prolapse of the ovaries, etc. Especially might these conditions result in profuse extravesicular hæmorrhage. Should contraction and sclerosis of the ovary occur, the hardened wall of the follicles might readily be responsible for intravesicular hæmorrhage and the formation of more or less extensive cysts. Such a process must ultimately lead to the destruction of the tissue proper of the ovary. The diagnosis of ovarian hæmorrhage is usually difficult for the reason that, with the exception of those cases in which the hæmorrhage is excessive and a tumor of rapid growth apparent, there are no symptoms, or very few, which will excite attention. Bœckel, indeed, mentions a diagnostic point which consists in the swelling of the cyst with each recurring menstruation; but this would give no positive clew, as the same symptom obtains with certain small fibroid tumors of the uterus, and we might thereby be misled and hesitate as to the only method of treatment which promises radical relief. That method consists in the opening of the abdomen and the removal of the diseased organ. Of course one must decide for himself in every case whether the symptoms are sufficiently urgent for adopting so radical a procedure.

THE PRACTICE OF MASSAGE BY THE LAITY.

In a recent number of the Internationale klinische Rundschau there is an article expressing the views of the Hungarian Board of Health as to the propriety of permitting the laity to constitute themselves professional masseurs. The opinion, which was elicited with direct reference to the control of the practice of massage in Herkulsbade, was reached after a general consideration of the subject, in which it was stated that massage had, in former years, been monopolized by the charlatan, and among reputable physicians had held no place as a therapeutical agent. To-day, however, its merits were based upon scientific experiments, the results of which placed it in the front rank as a remedy in certain conditions. It was only in exceptional cases that the layman could successfully administer massage. Serious injury had already been done to patients by the lack of proper knowledge on the part of the masseur. It often happened in medical practice that the physician intrusted the giving of electricity, under his direction, to a member of the family, or to some other intelligent person. This did not mean that the laity generally could be trusted with electro-therapeutics. The same argument obtained in respect to massage. The fact that it had gained such ground during the past few years and was so generally prescribed rendered it obviously desirable and imperative that those to whom the details were intrusted should be properly qualified by special training and legal ordination. The leading masseur of the city was known to have refused gynæcological cases upon the ground that he did not possess the qualifications of a specialist in that department. If this precaution was shown by one possessing such general medical knowledge, it was a strong argument against the indiscriminate practice of massage by persons with no qualifications whatever. The public did not very carefully distinguish between the masseur and the doctor; the former was the one who did the work and was regarded as the specialist, and to him the cures were credited. Summing up its conclusions, the board decided (1) that, after due consideration, it was deemed unlawful for a person to practice massage unless possessing the proper medical knowledge. (2) Having regard to the importance and prominence of the Herkulsbade, a properly qualified medical person should be placed in charge to direct the treatment by massage.

MINOR PARAGRAPHS.

LEPROSY IN SPAIN.

According to the British Medical Journal, Dr. Olavide, of Madrid, a prominent Spanish dermatologist, has given to the Revista Clinica for December his estimate as to the degree of prevalence of leprosy in his country. He thinks that the total number of lepers in Spain is 1,000 to 1,500. An attempt was made, about three years ago, to have a governmental census taken of the lepers, but the project did not succeed owing to the difficulties of diagnosis, which Dr. Olavide attributed to the lack of dermatological instruction in the Spanish medical schools. Leprosy is quite rare in the inland districts; it is chiefly found in the maritime provinces, at the south, and also in two of the northern coast provinces. It is a curious circumstance that the cases are not found so very often on the coast itself, but generally at the distance of a few leagues back from the shore. Dr. Olavide says that there are always six to eight cases at the Madrid hospitals. When they enter the hospitals they must remain there until death, a recent enactment forbidding them to leave. In twenty-five years, Dr. Olavide has had five hundred of these lepers under his care and he has no knowledge of an extension of the disease by contagion. He is not an anti-contagionist, but holds firmly to the bacillary theory of the propagation of the disease and thinks it ought to be found both contagious and inoculable, but his experience and observation have been that the patients in the hospitals have not communicated the disease to their fellow-patients or to their nurses and attendants. He concludes his paper by an argument in favor of the appointment, by all the various interested governments, of official commissions of dermatologists and microscopists, who shall go to the West Indies, the Philippine Islands, and China, to study the disease in those countries, and he also calls for a correct statistical inquiry concerning the number of lepers in Europe and the colonies.

A CHINESE EDITION OF THOMAS ON DISEASES OF WOMEN.

The progress of medical education among the Chinese has lately been notably furthered by the publication of Chinese translations of a number of well-known text-books. Of these translations, one of the most recent is that of Dr. T. Gaillard Thomas's treatise on the Diseases of Women, a work that has long enjoyed distinction in this country and Great Britain, and that has been translated into many foreign languages. The Chinese edition is in five volumes. The illustrations, although somewhat rude in execution, faithfully represent the originals in all essential points, and the general appearance of the book is quite creditable.

URAL, A NEW HYPNOTIC.

La France médicale gives a brief description of ural, which is said to bear a close resemblance to somnal (see this Journal for January 4th). It is obtained by mixing urethane and chloral. It presents itself in crystals, soluble in alcohol and but little soluble in water; it melts at 106° and volatilizes without decomposing. It is bitter in taste. It does not modify the blood pressure, and no accidents have hitherto resulted from its use. The conditions indicating its employment are supposed to be the wakefulness of cardiac disease, mental maladies, and hysteria.

CHRISTMAS FATALITIES IN LONDON.

The Lancet refers to the deaths of infants in London, occurring among the very poor, which are registered as "overlain." There were nine deaths of children, recorded for Christmas eve and night and the following day, occasioned by their drunken parents smothering them by overlying during sleep. According to another statement, there were fourteen such cases within a week, all probably indirectly due to too much indulgence in holiday liquor. In the domiciles of very many of these poorer people such a thing as a crib for the baby is a rarity, and would be considered a luxury.

THE LATE SIR WILLIAM GULL.

Dispatches to the newspapers announce that Sir William Gull died on Wednesday, January 29th, at the age of seventy-four years. He was graduated from the University of London in 1846, in 1847 was made Fullerian Professor of Physiology at the Royal Institution, and in 1848 he was elected a Fellow of the Royal College of Physicians and Surgeons. He was physician and lecturer at Guy's Hospital for twenty years, and afterward consulting physician to that institution. The deceased was one of the most noted of the physicians of London, and a man conspicuous by his contributions to the periodical literature of medicine.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 28, 1890:

DISEASES.	Week ending Jan. 21.		Week ending Jan. 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever..............	7	1	26	5
Scarlet fever...............	58	9	66	10
Cerebro-spinal meningitis....	1	1	2	1
Measles.....................	70	1	77	6
Diphtheria.	96	26	98	23
Varicella..................	5	0	5	0

The Medical Society of the State of New York.—The eighty-fourth annual meeting will be held in Albany on Tuesday, Wednesday, and Thursday, the 4th, 5th, and 6th inst., under the presidency of Dr. Daniel Lewis, of New York. The secretary of the New York delegation, Dr. Ralph Waldo, informs us that the Trunk Line passenger committee have authorized a rate of one fare and one third, on the certificate plan. This makes the fare from New York, for the round trip, $4.15. Those wishing to avail themselves of the rate must get certificates from the agent at their starting-points. These will have to be signed at the place of meeting by Dr. Curtis, and, when presented to the ticket agent at Albany, will entitle the holders to return tickets at one third fare. The following papers have been promised:

The Use of Belladonna in Spasmodic Contractions of the Neck during Labor, by Dr. S. S. Cartwright; The Time-element in saving the Perinæum, by Dr. Robert L. Dickinson; A Case of Extra-uterine Pregnancy, by Dr. H. D. V. Pratt, Jr.; What are the Rational Limitations of Intra-uterine Therapeutics? by Dr. Andrew F. Currier; Remarks on the Use of the Uterine Curette, by Dr. Walter B. Chase; Cancer of the Body of the Uterus, by Dr. H. C. Coe; The Indications for Operation in Disease of the Uterine Appendages, by Dr. Egbert H. Grandin; Report of Two Years' Work in Abdominal Surgery, by Dr. W. Gill Wylie; Acute Dacryocystitis, by Dr. David Webster; Spectra of Blood in Certain Eye Diseases, by Dr. Lucien Howe; Cataract, by Dr. Francis Valk; A Case of Meningocele resembling Degeneration of the Lacrymal Sac, by Dr. W. F. Mittendorf; Purulent Ophthalmia, by Dr. J. A. Andrews; On the Treatment of Eczema in Elderly People, by Dr. L. Duncan Bulkley; An Original, Simple, and Effective Method for Treatment of Scabies, by Dr. Samuel Sherwell; On a Case of Leprosy apparently Cured, by Dr. George Henry Fox; The Prômpt Recognition and Treatment of Syphilis of the Brain, by Dr. J. Leonard Corning; The Thomas Hip Splint, by Dr. J. F. Ridlon; A Ready Method for Counter-traction at the Knee, by Dr. Henry Ling Taylor; The Pendent Limb in the Treatment of Joint Diseases of the Lower Extremity, by Dr. A. B. Judson; The Prevention of Tuberculous Bone Lesions, by Dr. V. P. Gibney; The Question of what produces and what prevents Ankylosis of Joints, by Dr. A. M. Phelps; A Statistical Paper on Club-foot, by Dr. W. R. Townsend; Fever and its Treatment, by Dr. Alfred L. Loomis; A Case of Uræmic Convulsions in New-born, Recovery, by Dr. A. Hutchins; Functional Albuminuria, with Three Years' Observation of a Case, by Dr. Eli H. Long; The Importance of a State or National Registration of Births, by Dr. Alex. Hadden; Isolation of Consumptives, by Dr. P. H. Kretzschmar; The Production of Tubular Breathing in Solidification and other Conditions of the Lungs, by Dr. Charles Cary; The Physiological, Pathological, and Psychological Bearings of Sex, by Dr. Samuel S. Wallian; A Study of Alcoholism in Bellevue Hospital, by Dr. C. L. Dana; Early Diagnosis of Tubercular Meningitis, by Dr. W. P. Northrup; Recent Lunacy Legislation affecting the General Practitioner, by Dr. E. H. Howard; The Geographical Distribution of Tuberculous and Dairy Cattle, by Dr. E. F. Brush; Address on Surgery, by Dr. Alfred Mercer; The Diagnosis and Treatment of Fractures through the Anatomical Neck of the Humerus, by Dr. C. A. Powers; Report of Five Cases of Suprapubic Cystotomy for Tumors of the Bladder and Vesical Calculi, by Dr. A. Vander Veer; Reflections upon Some

Cases of Nephro-lithotomy, by Dr. E. L. Keyes; A Rarely Described but Common Form of Cystitis in Women, by Dr. Robert T. Morris; An Extension Splint for the treatment of Fractures of the Leg, the Arm, and Forearm, by Dr. P. R. Furbeck; A History of Two Hundred and Fifty Cases of Excision of the Superior Maxilla, by Dr. J. D. Bryant; Treatment of the Diseases of the Rectum based upon Anatomical Study, by Dr. Seneca D. Powell; Seven Consecutive Successful Cases of Intubation of the Larynx for Diphtheritic Croup, by Dr. William Hailes, Jr.; Methods of examining the Post-nasal Pharynx and Surgical Treatment of Diseases of that Cavity, by Dr. C. C. Rice; A Case of Papilloma of the Vocal Cords, by Dr. Charles N. Cox; The Prevention of Tubercular Laryngitis, by Dr. B. F. Westbrook; Nasal Intubation, by Dr. D. H. Goodwillie; Nasal Epilepsy, by Dr. John O. Roe; Some Practical Suggestions concerning Antrum Disease, by Dr. F. H. Bosworth; Chronic Nasal Catarrh; its Causes, Course, and Cure, by Dr. O. B. Douglas; Naso-pharyngeal Epithelioma, by Dr. Sidney Allen Fox; the Ætiology and Radical Treatment of Nasal Myxomata, by Dr. W. C. Jarvis.

Medical Society of the County of Kings.—At the annual meeting held on Tuesday, January 21st, the following officers were elected: President, Dr. Walter B. Chase; vice-president, Dr. Frank H. West; secretary, Dr. W. M. Hutchinson; assistant secretary, Dr. David Myerle; treasurer, Dr. Charles N. Cox; librarian, Dr. Joseph H. Hunt; censors, Dr. Ernest Palmer, Dr. Glentworth R. Butler, Dr. Z. T. Emery, Dr. Joel W. Hyde, and Dr. George W. Brush; trustee, Dr. A. Ross Matheson; delegate to the State Medical Society, Dr. Ernest Palmer.

The Metropolitan Medical Society.—A society with this title has recently been organized in New York, and will hold its meetings at the residence of members on the first and third Thursdays of each month, with the exception of July and August. Dr. Charles Schram, 136 East Eighty-second Street, is the corresponding secretary.

The late Professor Volkmann.—The Lancet says that the medical faculty at Halle have recommended the appointment of Dr. Küster, of Berlin, to succeed the late Dr. Volkmann. Dr. Fedor Krause, the latter's assistant for several years, will be made the extraordinary professor of surgery. Dr. Krause will superintend the publication of an essay on cancer left by Volkmann, nearly ready for the press; but by his will none other of his works, surgical or poetical, will be published. Dr. Schede, of Hamburg, has been named as the probable successor of Richard Volkmann at Halle.

La medecine moderne.—Dr. Germain Sée is the editor of a new Parisian medical weekly journal, named as above, which will be largely devoted to the reports of important scientific societies.

Another Half-million to Charity in England.—Sir William Savory, senior surgeon of St. Bartholomew's Hospital, has, according to the Illustrated London News, been authorized to announce that the charities of London have been supplemented by a gift of one hundred thousand pounds, to found a convalescents' home to be connected with the general hospitals of that city. The donor desires that his name shall be unknown.

Tetraophthalmia.—A press correspondent reports from China the birth there of a baby with four eyes. The mother, a native and having the native superstition that her infant owed its abnormity to the evil spirits, put the child to death, after having kept it long enough to have certain matters of ritual attended to.

Change of Address.—Dr. William C. Gilliam to 12 West Fifty-third Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 19, 1890, to January 25, 1890:*

By direction of the President, the Army Retiring Board appointed by War Department order dated January 8, 1890, from headquarters of the army, to meet at Los Angeles, California, will meet for the examination of Major Leonard Y. Loring, Surgeon, at San Diego, California. S. O. 18, A. G. O., January 22, 1890.

Black, Charles S., Captain and Assistant Surgeon. By direction of the Secretary of War, the extension of leave of absence granted in Special Orders No. 1, January 1, 1890, Department of the Platte, is further extended to include April 30, 1890.

Spencer, William G., Captain and Assistant Surgeon, Fort Bridger, Wyoming. Leave of absence for one month is hereby granted. Par. 1, S. O. 4, Department of the Platte, January 20, 1890.

The resignation of Charles S. Black, Captain and Assistant Surgeon, has been accepted by the President, to take effect April 30, 1890. Par. 1, S. O. 18, A. G. O., January 22, 1890.

Society Meetings for the Coming Week:

Monday, *February 3d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *February 4th:* Medical Society of the State of New York (first day, Albany); New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Hampden, Mass., District Medical Society (Springfield); Baltimore Academy of Medicine.

Wednesday, *February 5th:* Medical Society of the State of New York (second day); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *February 6th:* Medical Society of the State of New York (third day); New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *February 7th:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *February 8th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of December 11, 1889.

The President, Dr. C. K. Briddon, in the Chair.

Impermeable Stricture of the Œsophagus; Internal Œsophagotomy from below after Gastrotomy; Recovery.

—Dr. F. Lange reported a case of this character. The patient, a child about four years of age, had swallowed a quantity of concentrated lye at the age of two years. Since then there had been varying difficulty in swallowing, and finally almost entire inability, to swallow, and the child had to be nourished by enemata. With the patient under an anæsthetic the speaker had tried at three different times to pass an instrument beyond the stricture, but without success, the point of resistance being about nineteen centimetres from the teeth. On May 24, 1889, gastrotomy was performed. An incision was made on the left side about three inches long, parallel to and about an inch from the free border of the ribs. The wall of the stomach was stitched to the peritonæum and then incised. The edges were united to the integument; the opening made easily admitted the index finger. An unsuccessful attempt was made to pass the stricture from below. Six days later, with the patient under chloroform, another attempt was made, and the following condition discovered: What had seemed to the finger as the œsophageal opening proved to be a diverticulum of the wall of the stomach drawn upward through the opening of the diaphragm. The opening of the tube proper was but a small depressed slit, about five millimetres in length, situated on the right side of the above-mentioned pouch. This was demonstrated by the touch and by the injection of air from above through a soft-rubber catheter. The opening was made visible by means of a thin glass speculum, with the largest size of urethral endoscope and the injection of milk from above. Any bougie or probe passed through this small opening was arrested at about five or six centimetres above the diaphragm. The speaker then had a glass speculum made of corresponding length and width in order to make the œsophageal opening better visible. On the eleventh day after the operation another prolonged attempt was made. At last, by combined manipulation from above and below, a small whalebone probe dipped into the stomach and was pulled outward. A thread was then attached to its lower end and a series of small blades was forcibly drawn through the strictured portion. After passing a urethral elastic bougie, 27 French, a drainage-tube of smaller caliber was left within the stricture, which reached down into the stomach. The external end was attached to a thread, which was passed out through the nostril and fixed outside by adhesive plaster. This remained *in situ* for three days. Several days later, under narcosis, bougies were passed from above. Feeding had been carried on by passing a soft-rubber catheter through the pyloric orifice and injecting different nutrients. On the eighteenth day after the gastrotomy the stomach was closed; healing took place without any unpleasant symptoms. The patient's general condition improved. Fluids could be taken without difficulty. At intervals of three days bougies were passed, though nothing had been gained beyond the original caliber after the operation. In October the child was again placed under chloroform and an internal œsophagotomy performed. This allowed a bougie of 33 French to be passed, which caliber had since been maintained. The child, as exhibited to the society, was well nourished and vigorous. He was able to swallow fluids, mushy food, and solids if cut into small pieces. The speaker hoped to further improve the condition by repeated œsophagotomies at varying intervals.

Gunshot Wound of the Abdomen; Laparotomy; Suture of the Intestine; Recovery.—Dr. L. A. Stimson presented a patient, a longshoreman, thirty-two years old, who was admitted to the Chambers Street Hospital October 20, 1889, at 6 A. M. He had been shot an hour previously by a policeman with a pistol of 0·38 caliber, at a distance of seventy-five feet. On admission, the surface was cool, pulse full and strong, not much shock, and but little pain. The bullet had entered the abdomen an inch and a half to the right of the median line, four inches and a quarter below the umbilicus; it had passed through trousers, drawers, and undershirt without causing any loss of substance in them. The speaker saw him at 9.30 A. M. During the interval he had changed for the worse. The lower part of the abdomen had become very tender spontaneously and on pressure; pulse 78, temperature 98°, respiration 21. Urine drawn by catheter contained no blood. Ether was administered; the bullet wound enlarged and found to penetrate to the abdominal cavity. A median incision was then made from the umbilicus to a point an inch above the pubes; it was subsequently extended an inch above the umbilicus. After drawing out about two feet of the intestine, two bullet wounds were found on the side of the small intestine, eighteen inches above the ileo-cæcal junction. The wounds were about half an inch long, lapping each other by about half their length, and separated from each other about a quarter of an inch. They were ragged, the mucosa was everted, and a small amount of fæces lay in each. A large piece of potato protruded through one and was removed, together with two other adjoining similar pieces. The wounds had evidently been made by the bullet passing along the side of the intestine in the furrow of a sharp bend, opening the intestine on each side but not fully entering its lumen. The intestine for about a foot on each side of the wound and some adjoining loops were congested and lightly coated with lymph. Each wound was closed with a single row of Lembert sutures of fine silk—five in one, four in the other.

Further exploration revealed a small slit in the mesentery, an abrasion on the cæcum, and two ecchymoses an inch in diameter at the junction of the mesentery and the intestine five inches below the perforations. There was no bleeding, and the further course and location of the ball could not be determined without a more prolonged examination than seemed justifiable. The peritonæum was closed at the bullet wound with interrupted catgut sutures and in the median incision with a continuous catgut suture, and the remainder of the abdominal wall with interrupted silk sutures. Two drainage-tubes—one of glass the other of rubber—were introduced at the lower angle of the incision and the glass tube lightly packed with iodoform gauze. The parietal bullet wound was closed with silk and drained with a rubber tube. Iodoform and creolin dressing was applied. At the end of the operation the pulse was 126, respiration 28, and temperature 100·2° in the rectum.

During the first twenty-four hours he received ten minims of Magendie hypodermically and no food or drink; during the second day he was allowed to take a little water, and on the third day milk in small quantities. The gauze in the glass tube was changed every twelve hours, and the glass tube was withdrawn on the third day, and the rubber on the fourth day. A laxative was given on the fourth day. At no time were there any threatening symptoms, and his complete recovery was retarded only by suppuration of the parietal wound, which made removal of some of the sutures necessary, and the closing of the wound by granulation. The wounds were now entirely healed; the cicatrices were narrow and firm, with no recognizable tendency to hernial protrusion.

Removal of the Vermiform Appendix for Recurrent Inflammation.—Dr. Stimson also presented a patient twenty-two years of age from whom he had removed the appendix. (The appendix itself was presented to the society at the meeting of November 13th, and the previous history of the case given at that time.) The operation was done during the subsidence of an inflammatory attack on the third day, and there was no suppuration about the appendix. There had been two previous attacks, the second one fourteen months before the present one. The operation was done on October 27th. The incision was made along the outer border of the rectus, beginning a little above the umbilicus, and the appendix was found with considerable difficulty, as it was entirely imbedded in tissue of new formation along the mesenteric border of the ileum. Only the upper half of the incision was closed with sutures, and the lower half lightly filled with iodoform gauze extending to the stump of the appendix. The suppuration was profuse during the first week, and the parietal incision closed slowly. It was not yet entirely healed over, but the patient had been out of bed for a fortnight or more.

In connection with this case the speaker presented another appendix removed on November 29th from a man twenty-eight years old on the third day of an attack, which proved to have been one of suppuration. He had had another attack five years previously, which did not lead to suppuration. This young man had walked into the dispensary shortly after breakfast, having been taken with a violent pain in the abdomen, referred to the right side. A diagnosis of appendicitis having been made, the patient was sent to the New York Hospital, and was operated upon on November 30th. The usual incision was made. Before reaching the peritoneal cavity it was noticed that the subperitoneal tissue was somewhat infiltrated. On dividing the peritonæum and raising the intestine, the appendix could be seen prominent below and behind the cæcum, deeply congested and apparently an inch in length and three quarters of an inch in diameter at its base. As the cæcum was raised, a little pus escaped from around the base of the appendix to the amount of about two drachms; this was caught on a sponge. A large, flat sponge was at once placed on the inner side of the wound, and, after the pus had been thoroughly removed and the field of operation cleansed with bichloride solution, the appendix was ligated at its base with catgut and excised. From the distal end of the appendix there extended a cord-like mass of connective tissue upward and closely adherent at its upper end to the tissues of the fascia and peritonæum.

The abdominal wound was closed down to its lower angle, and a large rubber tube was inserted down to the stump of the appendix and lightly packed about with iodoform gauze. This was removed on the fourth day, the tube being shortened on the seventh and entirely removed on the ninth day. The temperature rose at first to 100·5°, but in a few days sank to normal. The wound healed by primary union. Twelve days after the operation the patient was practically well.

Congenital Dislocation of both Patellæ.—Dr. F. Kammerer showed a case of dislocation of both patellæ in a woman of middle age. The history, he said, was somewhat vague, as the patient was given to drinking at times. He had elicited the statement that her legs had always been crooked, also that she had sustained some injury from a fall. Little reliance was to be placed on these stories, and it seemed very unlikely that the condition now existing could have resulted from any fall. It would be seen that there was a slight genu valgum on both sides and certain changes in the joints. He thought there was some foreign body to be made out in the right knee joint. The dislocation of the patellæ was outward, and was complete. Every time the legs were bent, the patellæ receded still further backward. He had no hesitation in pronouncing the dislocation a congenital one.

A Case of Traumatic Hemiplegia.—Dr. Charles T. Poore read a paper in which he reported the history of a case. (See p. 124.)

Dr. C. McBurney said that he had had no experience as to the possibility of the absorption of bone fragments, though he was inclined to think such an incident might occur. He had not understood whether Dr. Poore had introduced a needle.

Dr. Poore replied that he had introduced one into the cyst but not into the brain substance, on account of the patient's condition. The finger had been used for examination.

An Impostor.—Dr. Wyeth said that he had a case to relate, the history of which he proposed to give for the protection of the surgeons of the city: A young woman, about twenty-two years of age, had come to him at Mount Sinai Hospital a few weeks ago with a lot of pustules like pemphigus all over her face and on various parts of her body. It was such a peculiar case that no diagnosis was ventured upon. He had not cared to put himself on record in the matter; the house surgeon had, however, thought it might be a syphilitic pemphigus. With his consent, the house surgeon placed her upon mixed treatment, and, much to the gratification of the staff, the pustules disappeared in ten days. About four mornings after that, however, the girl was found all broken out again. She was also vomiting fæcal matter. Investigation showed that she had a little packet secreted next her skin containing twenty-five or thirty small cantharides plasters of about the size of a quarter of a dollar. The deception as to the fæcal vomiting she had managed by concealing portions of fæcal matter in the bed, then, putting it in her mouth, she had ejected it, much to the surprise of the staff.

Dr. Stimson said that the young woman had turned up at the Chambers Street Hospital with a purulent eruption on her abdomen, but, fraud being suspected, Dr. Cole, one of the assistants, had cleverly remarked in her presence that in a few days the eruption, now round, would be square. Sure enough, on her return a few days later the eruption was in square patches, and she was refused treatment.

Dr. Willy Meyer said that the girl was admitted to the medical ward of the German Hospital in the beginning of the year and treated for some length of time, a diagnosis of hysteria having first been made. She frequently vomited fæcal matter and now and then some blood. To clear up the diagnosis, the attending physician had injected indigo and water into the rectum. In about fifteen minutes she had vomited some of this indigo-water, having had no idea that dyed water had been injected. The nurse who was at her bedside had observed her very closely while the doctor had turned to another patient, so that the girl could not possibly have passed some of the injection into her hand and then swallowed the same. Besides, and that was important to state, an extra sheet, spread underneath, had remained perfectly dry and clean. As the case was to be published, Dr. Meyer would like to abstain from any further remarks. In view of the recurrent hæmatemesis and constant pain in the epigastric region, as well as the result of the experiment mentioned, it was thought that some connection between the stomach and transverse colon might possibly exist. The patient was accordingly transferred to the surgical ward with a view to ascertain whether she could be helped by surgical interference. Laparotomy showed the internal organs to be in perfect order. In the wall of the stomach there was, however, found a big sewing-needle nearly two inches long pointing toward the omentum minus. Dr. Meyer had to make a long incision into the wall of the stomach to remove this. The girl had made a good recovery. Although fæcal matter was found concealed in her bed later, doubt still existed as to whether the patient was an impostor or whether she belonged to that very rare class of hysterical cases in which fæcal vomiting really took place from antiperistaltic movement.

(*To be concluded.*)

NEW YORK ACADEMY OF MEDICINE.

SECTION IN THEORY AND PRACTICE OF MEDICINE.

Meeting of December 17, 1889.

Dr. R. C. M. Page in the Chair.

An Apparatus for Heating Carbonic-acid Water without Escape of the Gas.—Dr. J. West Roosevelt, on behalf of Mr. Warker, the inventor of a very cleverly devised apparatus for heating waters charged with carbonic-acid gas and still insuring the retention of a large proportion of that ingredient, gave the following description of its general construction: Within the tank was a worm the fluid contents of which were heated by hot water surrounding it, the temperature of the latter being raised to any required degree by means of artificial heat beneath the tank. In order to deliver the water with the gas still in solution the apparatus was fitted with ingeniously devised valves, by which a certain amount of the gas, the tendency of which was to drive the water out and cause a loss of gas, was allowed to flow into a pressure-relieving chamber, while the carbonic-acid water flowed out by gravity. The result of this arrangement was that a large amount of gas was retained by the water. These conditions were not affected by the height of the temperature. By the use of this apparatus it seemed possible to administer to patients a very large amount of carbonic-acid gas in warm solution, in which condition its therapeutical advantages were, according to the views of some people, much enhanced. The speaker did not pretend to indorse these views. He could not say how large an amount of gas was retained by the apparatus, but thought that the device was worthy of trial and examination.

Cocillana; a New Drug.—This was the title of a brief survey, by Dr. R. W. Wilcox, on the therapeutical attributes, so far as tested, of the new drug cocillaña. (See vol. l, p. 710.)

Dr. H. H. Rusby, of Newark, N. J., by whom the medicinal properties of the drug had been discovered, gave a brief description of his preliminary experiments. He said that its failure in some cases of bronchitis and allied troubles might be attributable to the employment of too small doses. Instead of twenty drops, he would give from fifteen to forty-five, repeating it every hour until improvement was noted or until the characteristic metallic taste appeared in the mouth. He had been surprised and somewhat disappointed to find that in pharyngitis and laryngitis cocillaña could not be well tolerated, as it appeared to act as a local irritant, especially upon the pharynx and posterior nares.

Eye Symptoms as Aids in Diagnosis.—A paper with this title was read by Dr. D. C. Cocks. It was the speaker's purpose to bring to notice an outline of the more important facts about the eye and its diseases, a knowledge of which was essential or helpful in diagnosis. Epiphora was at times the first symptom of facial paralysis; the orbicularis failed to keep the puncta in contact with the globe, allowing the tears to flow over the cheek. In acute inflammation of the lacrymal gland there was frequently an attending fever, but the presence of the localized swelling and pain sufficed to make known the cause of the febricula. The presence of dacryocystitis indicated something more than a localized inflammation. It pointed to obstruction in the canal or sac, and was most frequently caused by neglected nasal catarrh. Excluding this exostosis and periostitis, the result of syphilis was probably the cause of the trouble. Where the inflammation persisted in spite of judicious treatment, other constitutional troubles would be found to account for it. Herpes zoster ophthalmicus was pathognomonic of changes, probably inflammatory, in the fifth nerve and Gasserian ganglion. This condition was frequently mistaken for erysipelas. The situation of the vesicles on one side of the head over the distribution of the fifth nerve and the persistent pain should prevent such a mistake. The well-known symptom of Bright's disease, morning œdema of the lower lids, should not be overlooked. The reddened margin of the lids, blepharitis marginalis, indicated a lowered condition of the general health, or an error of refraction. Ptosis by itself might mean pressure from syphilitic deposits or rheumatic swellings.

Exophthalmus was pathognomonic of Graves's disease. When this condition was limited to one eye it might be caused by tumors of the orbit, syphilitic periostitis, or even an orbital hæmorrhage from whooping-cough. Exophthalmus had been known to follow an injury of the head. Where a patient complained of headache, nausea, vomiting, or pains through the temple or eyes, there should be an examination to know whether there was perfect harmony existing between the ocular muscles. The correction of insufficiencies by prisms or tenotomies would often give an entirely new aspect to cases that were formerly obscure. When all of the external muscles of the eyes were paralyzed we had ophthalmoplegia externa—a disease not of the eyes, but of the central nervous system, affecting the nuclei of the third, fourth, and sixth nerves. A recurring paralysis of the third, fourth, or sixth nerve was frequently the first indication of posterior spinal or of general sclerosis. Very often the first symptom of basilar trouble or intracranial disturbance was evinced by the paralysis of one or more of the ocular muscles. The progress of growths could often be watched by successive muscles becoming involved and the exact location of such neoplasms accurately marked out. Phlyctenular conjunctivitis was almost always indicative of lowered vitality, of eye strain, or bad hygiene. Chronic conjunctivitis had about the same significance, but was also associated with nasal or pharyngeal catarrh. Phlyctenular keratitis occurred under about the same conditions as the two preceding diseases. Interstitial keratitis always indicated constitutional trouble. The great majority of these cases occurred in persons under twenty—usually from five to ten—and were symptomatic of congenital syphilis. The presence of keratitis with hypopyon indicated infection from some quarter, possibly from nasal catarrh, dacryocystitis, or carious teeth. In cases where the cornea sloughed away without pain or distress in old people, we might know their vital powers were much depressed and their blood-vessels probably atheromatous. If we found the cornea cloudy or ulcerated, the patient complaining of no pain or photophobia, we had a keratitis due to a lesion of the fifth nerve. Scleritis and episcleritis rarely occurred except in rheumatism or the rheumatic diathesis. Iritis might be due to hereditary, secondary, or tertiary syphilis. It might be due also to malaria, gonorrhœa, variola, rheumatism, or gout. The speaker had recently reported a case of tubercular iritis in which the tubercle bacilli were demonstrated. An examination of the patient, a small child, showed the presence of a phthisical process in progress within the chest. In the first stages of pachymeningitis hæmorrhagica the pupils were, as a rule, contracted, and most markedly so on the side of the hæmorrhage. Myosis existed in the early stages of acute meningitis, and with the other symptoms gave valuable aid in its early recognition. The Robinson pupil was almost always associated with posterior spinal paralysis. When the cervical sympathetic was irritated by pressure of some growth, moderate myosis might call attention to the lesion; the accommodation was not affected. In complete paralysis of the third nerve there was mydriasis and paralysis of accommodation. Unequal pupils was one of the first symptoms of general paresis. One should be always on guard not to mistake the mydriasis of atropine for that of disease. The existence of mydriasis, together with other symptoms, might clear up a doubtful case of tumor cerebri or of syphilitic trouble of the base, or be indicative of a fracture through the apex of the orbit. Headaches not yielding to ordinary means might be due to weakness of the ciliary muscle. These cases were many times cured by being properly fitted with glasses. The ophthalmoscope should be in the hands of the general practitioner. The interior of the eye, aided by the mydriasis of cocaine, could readily be examined. A chorioiditis of the macule of each eye, together or consecutively, attended with dust-like specks in the vitreous, was not infrequently met with, and was almost pathognomonic of syphilis, congenital or acquired. Its early recognition was of the utmost importance to the patient; if neglected, central vision was apt to be lost. In regard to the normal fundus, its negative value in diagnosis could only be appreciated by those who were accustomed to look to the ophthalmoscope as an aid in diagnosis. A rapidly forming or soft cataract might be the first symptom that attracted attention to the presence of diabetes mellitus. The presence of a soft opaque lens with a scar in the cornea, while proving that an injury had been inflicted, might also indicate the presence of a foreign body in the eyeball, which would require immediate attention. The most interesting part of the subject was the light thrown on intracranial changes and on general diseases by changes in the retina and nerve. The neuro-retinitis of Bright's disease produced changes in the region of the macule, which were pathognomonic. Optic neuritis, especially if double, was of the greatest importance as an aid to diagnosis in intracranial troubles. Atrophy of the optic nerve was one of a series of symptoms which might prove the previous existence of cerebro-spinal meningitis, basilar meningitis, growths in this same region, alcoholism, or fracture of the base of the skull with involvement of the apex of the orbit. At times, on examining patients who complained of failure of vision, a central scotoma for red was found; this was almost pathognomonic of tobacco poisoning. Night blindness occurred in commencing atrophy of the optic nerve and retinitis. Word blindness accompanied as a rule lesion of the cortex cerebri. Acquired partial or complete color blindness was indicative of nerve atrophy. For practical purposes the field of vision could be tested by the hand moved into different parts of the field while the patient kept the eye fixed on the face of the examiner. Limitations of the field were found in optic atrophy and in glaucoma; in these conditions the fields were irregularly contracted. When monocular hemiopia existed, the condition was probably one of intraocular lesion; if binocular, intracranial lesion was certainly present, the lesion being along the optic tract or in the occipital lobe of the same side as the loss of vision. In acute Bright's disease patients occasionally became suddenly blind without a lesion of the fundus. The difficulty was evidently central and due in all probability to an œdema of the centers for vision. This condition could be distinguished from the loss of sight in albuminuric retinitis. Acute glaucoma was sometimes mistaken for a bilious attack or hemicrania, and chronic glaucoma for incipient cataract. The increased tension of the eyeball, the dilated and immobile pupil, the limited range of accommodation, and the contracted fields would soon settle the diagnosis without the aid of the ophthalmoscope, were those signs looked for. The speaker closed his remarks with the hope that this brief glance at the aids which the eye gave to the general practitioner in diagnosis would stimulate each one to a renewed sense of responsibility and interest in this most interesting field.

Dr. H. D. Noyes, after going over the various clinical points covered by the author's paper, warmly indorsed the opinion that the general practitioner should familiarize himself with the routine of eye examination.

Dr. Weeks said that while it was of course not incumbent upon the general practitioner to make himself familiar with all the details of minute changes in the interior of the eye, which was the study of years, still there were certain gross changes and conditions which he ought to be able to look for and the importance of which he should know how to appreciate, and the recognition of which would often result in very great and immediate benefit to patients.

Dr. W. F. Mittendorf thought that with the perfect instruments now at command there was no excuse for any general practitioner who professed himself unable to examine the interior of the eye. Medical students could be taught to do this fairly well in one lesson.

Dr. A. H. Smith referred to a case, which he said Dr. Noyes would also remember well, in which a gentleman had been suffering for a number of years from a trembling of the right hand and paresis of the right leg. Associated with this was a pain in the occipital region, brought on, it was assumed, by excessive use of the eyes. On this latter point the speaker had consulted Dr. Noyes, who had prescribed glasses which had relieved almost entirely the occipital pain, and had to a great degree favorably influenced the trouble in the leg and to some extent that of the trembling of the hand.

Dr. T. M. Pooley said that it had not been his experience that atrophy of the optic nerve was a common occurrence in spinal meningitis. One serious eye symptom which was of importance in reference to general disease was that of intraretinal hæmorrhage, such as occurred, for instance, in general pernicious anæmia. This took place frequently when the arteries were diseased from any cause or where there were general structural changes, as in syphilis. Where these retinal hæmorrhages were observed the changes which were taking place were often very considerable, and hæmorrhage might be expected to occur elsewhere and was quite likely to be intracranial. He thought many of the cases with slight degrees of insufficiency of the ocular muscles would get well if left to themselves or taken from the domain of the specialist and the patients treated by a qualified general practitioner with a view to improvement of the general health.

The Chairman said that a case had come under his notice about a year ago which illustrated admirably the utility of the observance of retinal hæmorrhage as denoting the progress of disease. A patient of his who was suffering from Bright's disease, and was also complaining a little of some defect in eyesight, was making preparations to go South. The speaker called in Dr. Webster, who, on making an examination, discovered retinal hæmorrhage. The patient's friends were informed of his condition and told that he might die of apoplexy at any moment. Death from this cause had taken place within twenty-four hours. This was a very fair instance where the simple examination of the retina supplied such information as rendered the prognosis most grave and enabled due notification of the facts to be given to the patient's family.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN OBSTETRICS.

Meeting of December 20, 1889.

The President, Dr. S. Mason, in the Chair.

Ovarian Cyst.—The President exhibited a small ovarian cyst which he had removed last month in the Coombe Hospital from a woman, aged thirty-five years, who had been married for twelve years and a widow for the last year. It was doubtful whether she had ever been pregnant.

Cancer of the Ovary.—Dr. Macan exhibited a specimen removed from a woman aged forty-one years. At the operation a diagnosis of carcinoma had been made, the pedicle of the cyst being felt to be a hard mass, which extended over the surface of the omentum and other intestines. On a post-mortem the liver was found to be covered with a carcinomatous infiltration. This, however, had not gone very far down, the chief mass being close to the pedicle. The part which he had tied after the operation was extremely hard. On the night after the operation her temperature was 101°, and it afterward became normal, though on one evening it was 100°. Her death took place on the fourteenth day after the operation.

Fatty Tumor.—The President exhibited a large fatty tumor which he had removed on the Friday preceding in the Coombe Hospital from an unmarried woman aged twenty-five years. It grew from the ischio-rectal fossa, and he removed it from the perinæum and left labium. The woman was now practically recovered.

Dr. O'Callaghan exhibited a papillomatous cyst which he had removed from a young girl aged twenty-four.

Complete Prolapse of the Cervical Zone of the Uterus preceding Labor at Full Term.—Dr. F. Kidd read the notes of two cases which he had met with in his practice. In the first case, which had occurred in a multipara with large, well-developed pelvis, and who had never previously suffered from prolapse, he had found on arrival a red or semi-purple mass protruding from the vagina for about three inches from the vulva. This was composed of the greatly-congested and turgid cervical zone of the uterus, dragging down with it the vaginal walls. Prolapse was accompanied by strong voluntary bearing-down pains. He had been able to reduce this prolapse at the time, nor did it return while the patient was kept lying on her back with pelvis raised, until true labor supervened five days later. At this time the congestion had all disappeared, and a living child was born after a very favorable labor. The second case had occurred in a primipara, aged thirty-four, with a small pelvis, and differed in this respect, that there was no congestion of the cervix, but the head descended, bringing with it the cervix. The os, quite rigid and only dilated about the size of a crown, had protruded from the vulva for about an inch or more. There was a large caput succedaneum, and four incisions, two anterior and two posterior, had to be made in the cervix, extending an inch from the margin—so as to enable the short forceps to be applied—when she was delivered of a living female child.

The speaker classified prolapse of the cervix at full term into (1) those cases in which the congested cervix descends without true hypertrophy; (2) those in which true hypertrophy has occurred; (3) those in which, the os being rigid, the cervical zone is dragged down by the advancing head without any congestion; and (4) those rare cases in which pregnancy has been known to take place in a completely prolapsed uterus and go on to full term. He thought that the predisposing causes were almost always some or all of the following—viz.: weak ligaments, unusually large and wide pelvis, rupture of the perinæum in previous labor, relaxed vaginal walls, with rectocele, cystocele, or both combined, and rigid os. Treatment might vary according to the case, but in all cases an endeavor should be made to return the prolapsed portion. If that be not feasible, dilate the canal with hydrostatic dilators, manual dilatation, or by incision, and deliver by forceps or cephalotripsy, supporting the perinæum and vulva well, lest the lower segment be drawn through. He read abstracts from a number of reported cases bearing on the subject.

Dr. Macan said that while they were indebted to Dr. Kidd for having brought the subject forward, he thought that the terms used in the paper were confusing and inaccurate. There was a certain amount of confusion as to what was meant by "prolapse of the cervical zone." In the first case mentioned in the paper the woman did not appear to have had any prolapse of the uterus. He thought that what she had was œdema of the cervix. As to the second case, it was more likely to have been one of rigid os than anything else. He thought the term "scirrhus," which had so generally a malignant import, was inapplicable in a case that had nothing to do with malignant disease. With reference to the fourth case, the best authorities entirely doubted the possibility of the uterus going on to the full term, and the woman being delivered in the position described. It was most improbable that in a case of total prolapse the woman could have gone on to the full term and been delivered. As to treatment, there was very little doubt as to what it should be. Where prolapse occurred in the earlier months of pregnancy the treatment was replacement and retention in the proper position. When there was hypertrophy of the cervix not much good was done by replacement. There was one condition of prolapse which Dr. Kidd had hardly noticed, and that was where the whole uterus became incarcerated in the pelvis —a state of things which at times led to a fatal result. He did not know that in these cases there was any great difficulty in knowing what were the indications of treatment.

Dr. Bagot said the first case mentioned in the paper was not one the conditions of which had been previously unknown. Dr. Mierachi, of Salonica, described the affection as "acute elongation of the cervix."

Dr. Kidd said that the pelvis in the second case was rather small, but he had not given any measurements. From the character of the labor there did not seem to be anything to indicate that the pelvis was very small.

Dr. Atthill said the subject Dr. Kidd had brought before them included cases of very different forms of prolapse. He had attended cases in which there had been true hypertrophy of the lower segment of the uterus prior to pregnancy, and also cases in which no such hypertrophic condition of the lower segment of the uterus existed, prior at least to pregnancy. The former class of cases, in which a true hypertrophic condition of the lower portion of the uterus existed, and in which pregnancy occurred, were, as far as his experience went, exceedingly rare. He had in practice met several cases of great elongation of the lower portion of the uterus. In one of these cases, that of an unmarried woman, he had amputated the cervix; in another he had destroyed a large portion of the cervix with caustic potash. He had never seen pregnancy to occur in cases of true hypertrophy of the lower section of the uterus—he meant where the hypertrophy had existed for some time previous to the possibility of pregnancy occurring.

Dr. Smith said the first case mentioned in the paper was the most interesting to him, as he had seen an almost similar one in the Rotunda Hospital. After replacement the labor had progressed without trouble, and there had been no second prolapse. He therefore called Dr. Kidd's first case acute œdema of the cervix.

The President said he hardly thought that in the case related by Dr. Kidd œdema alone, without descent of the uterus, would account for the large amount of uterine tissue that was found without the vulva.

Dr. More-Madden read a paper entitled **Observations on Treatment of Congenital Absence of the Vagina.**

The President said he had seen only one case of vagina congenitally absent. The case was similar to that which Dr. More-Madden had described.

Mr. O'Callaghan said he would prefer to remove the ovaries and tubes in such cases.

Dr. Macan said he had only seen two cases—one of complete and the other of incomplete absence. The cases in which the uterus was found differed from those in which there was no uterus at all.

Dr. Doyle remarked that Dr. More-Madden had not drawn attention to the anatomical relations of the parts where this abnormity occurred.

NEW YORK CLINICAL SOCIETY.

Meeting of December 27, 1889.

The President, Dr. L. B. Bangs, in the Chair.

The Prophylaxis of Gout.—Dr. W. Mendelson read a paper on this subject (see page 113).

Dr. L. E. Holt said that most people had very little idea as to what food should be given to children after weaning and during the second and third years. He advocated the preparation of two lists from one of which the food might be selected, while the other should comprise those articles which were not to be used under any circumstances. He considered that children ate too few meals each day. If fed oftener they were not nearly so prone to gorge themselves. They should have five regular meals a day during the second year, and four during the third. Verbal instructions to parents were soon forgotten, and he believed it better always to give written directions regarding diet. He would like to ask the author of the paper if it was a fact that salicin acted better in the stomach than the salts of salicylic acid.

Dr. Mendelson said he preferred salicin. Salicylic acid, being a decided irritant, was apt to produce "heart-burn," or a sensation of burning and discomfort in the stomach. From the use of salicin no complaint had come to him. It was most efficient in ten-to-twenty-grain doses, three or four times a day.

Dr. J. H. Emerson said that it was curious to note the different susceptibilities of individuals to doses of calomel. He often saw it advised that quarter-grain doses should be given as an efficient cathartic for an adult. He had prescribed it in that way with most disappointing results. He thought that some distinction should be drawn between gout and what might be termed secondary indigestion, though they might both come within one classification. It was very difficult to watch and control patients, especially if they were grown up, lived luxurious lives, and were addicted to table indulgence. If a patient had been in the habit of observing reasonable prudence all his life and had taken regular exercise, it was difficult to persuade him at forty or fifty years of age that he was suffering from gout. Such a one might not have much mental strain, would go into the country every summer, take exercise freely, partake only moderately of alcoholics in any form, inherit no tendency to gout, and yet have many of the symptoms manifest themselves. The speaker would hardly venture to call such a patient gouty, still he recognized the necessity for some restrictions in diet, exercise, etc., if one expected to control such manifestations.

Dr. James thought that some judgment was needed before advising patients to take a large amount of exercise. Physicians were apt to order their patients horseback and other exercise without appreciating the fact that in cases of liver derangement and with perhaps a coexisting mental strain too active exercise only aggravated the trouble and rendered the patient's system less able to take care of excrementitious products.

Dr. Frank P. Foster said that he must confess himself somewhat skeptical as to this question of exactitude in diet. He had seen a number of persons who had rigidly adhered to this plan and without apparent benefit. As to the use of wines, some physicians tabooed wines of all sorts, others only proscribed the heavy red wines, such as port and Burgundy, others forbade every kind of red wine, others would not allow champagne. He would like to hear the question touched upon in the discussion, and to know how many of the gentlemen present were in the habit of noting positive and marked beneficial effects from restricted diet and abstinence from wine.

Dr. Mendelson said that as far as he was concerned he had not the slightest doubt regarding the good effects of a proper diet. He could show Dr. Foster a family which he particularly recalled to mind in which the result of such restrictions had been most striking. There had been very marked evidences of impending gout in nearly every member of this family, and he was quite convinced that the improvement which had been wrought was to be attributed to the rigid regulation of the diet and of the mode of life generally.

Dr. Swift thought that some people did a great deal better by taking a glass of wine and then lying down before the ordinary meal.

Dr. Mendelson, in answer to a question, thought that physicians were liable to call certain symptoms gouty if specially interested in that disease, while others would consider the same symptoms due to a simple indigestion or dyspepsia. Such cases, however, often yielded to antarthritic treatment—patients getting well under the administration of salicin and a regulated diet.

Dr. Foster asked if it was not a fact that salicin acted by preventing fermentation.

Dr. Mendelson replied that while salicin had this action, yet it was effective in gouty dyspepsias where there were no signs of fermentation. As to Dr. James's remarks about over-exercising patients, no doubt a good many were very much injured by this—elderly men especially, whose muscles were not in very good condition and whose systems were enfeebled. In such cases it would probably be advisable to begin with massage.

Dr. Tipton, of New Mexico, present by invitation, in reply to a question, said that the gouty symptoms in his part of the country were generally termed lithæmia, still this was a gouty manifestation, a uric-acid diathesis. Patients would complain of indigestion, their tongues were coated, they had vertiginous attacks, and suffered from despondency. These symptoms were more frequent among the Anglo-Saxons than the natives.

The President said that he was in the habit of laying down certain simple rules for these patients. He prohibited food in excess and restricted exercise to conformity with the special needs of the patient, in relation to the demands made upon the brain or body by business or other occupations. He directed the use of a mixed diet, with certain exceptions—such, for instance, as pies, pastry, and sweets. In certain cases he allowed a moderate amount of wine, and thought this often met the demand made upon the body by business or by social labors, for in many cases social life was a labor. He wished that these rules as to diet, general living, and exercise could be made a little more definite. He had endeavored to simplify the question in his practice by directing the avoidance of any excess and by finding out in what direction each patient was prone to indulgence, and then restricting him in that particular.

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By H. N. Vineberg, M.D.

Sudden Death in Pleuritic Effusions.—L. Weill (Rev. de méd.; Deut. Med.-Ztg., 1888, No. 10) has collected twenty-seven cases of pleurisy in which death occurred suddenly, the patients apparently feeling quite well. In four of the cases no autopsy was made. In three of the cases an autopsy failed to reveal a sufficient lesion. Of the remaining cases death was due to myocarditis in two of them, one of which was observed by the author himself and is given in detail. The author lays stress upon the microscopical examination of the heart in all cases of sudden death in pleurisy, as in many cases the heart shows no change macroscopically. Death was due in nine cases to thrombosis or embolism of the right side of the heart. In six cases acute œdema of the lungs was the cause of death, pericarditis was the cause once, and perforation of the lung twice. Intermittent dyspnœa, especially if it occurs at night, and a tendency to syncope, should be looked upon as forerunners of a termination in sudden death. The author sums up as follows:

1. The chief lesions which may produce sudden death in pleurisy are thrombi and emboli of the heart and pulmonary artery, œdema of the lung of the sound side, and diseases of the heart muscle.

2. Functional and mechanical disturbances, such as severe syncope, displacement of the heart, and twisting of the vessels, also the hitherto hypothetical cerebral emboli, may be the causes of the sudden fatal termination in pleurisy.

3. Sudden death has been witnessed in the most varied forms of pleuritic effusions, in the acute and in the chronic forms, in left-sided or right-sided effusions, and when the fluid was increasing, remaining stationary, and decreasing in amount. Usually the effusion has been of a serous nature.

4. These cases often present certain symptoms, such as attacks of dyspnœa, premonitory syncope, irregular pulse, and deviation of the heart, but these symptoms may be absent. In general, a movement or exertion is the exciting cause.

5. Treatment is powerless if myocarditis or thrombosis is the cause. But in other cases preventive treatment may be of service, and the only means at our hand is thoracentesis, which should be performed in acute and chronic cases as soon as the foregoing symptoms of danger manifest themselves.

The Ætiology of Tetanus.—Dr. Beumer (Deut. Med.-Ztg., 1888, No. 18) reports two cases of tetanus which confirm the opinion that microorganisms are the cause of this disease. One of the cases was in a young man who, while bowling, had a splinter from the floor of the bowling alley enter under the nail of the right middle finger. Eight days subsequently the man was attacked with tetanus and died three days afterward. An autopsy was not allowed. But, in order to test the cause of the disease, the author took some of the dust and a fragment of wood from that part of the floor of the alley where the accident had occurred. With this material he inoculated several white mice and rabbits, all of which succumbed with symptoms of tetanus in the lower animals. A short time afterward a boy, six years of age, died with all the symptoms of traumatic tetanus from an injury received in the sole of the foot with a sharp stone, which penetrated the skin to the deeper cellular tissue. Ten hours after death the author took a small portion of the skin from the injured part, and with this he inoculated white mice. These also died with symptoms of tetanus. As a practical result of these experiences, the author recommends that every wound coming into contact with earth should be most scrupulously cleansed, for the tetanus bacilli are widely spread. In cases of tetanus neonatorum, also, the author could show that the disease was due to a bacillus entering the navel wound from unclean hands or dirty dressings.

Paroxysmal Tachycardia (Rapid Pulse).—Nothnagel (Deut. Med.-Ztg., 1888, No. 21) has observed, in close succession, three cases of this kind. In his first two cases there was coincident disease of the valves, but in the third case no organic affection of the heart existed. Even in the first two cases the author does not think that the valvular affection had anything to do with the attacks of rapid pulse, for this phenomenon has been observed for the most part in cases free from heart disease. When the pulse becomes rapid in cardiac affections from loss of compensation, the symptom becomes a continuous one. The chief problem to solve in these cases is whether the attacks are due to a paralysis of the vagus or to a stimulation of the acceleratory nerves. The latter is the more plausible, and analogous conditions are witnessed in the nerves supplying other parts. Still, the author has observed attacks which at one time seemed to be due to a paralysis of the vagus, and at other times to a stimulation of the accelerating nerves. He draws the following conclusions from his observations:

1. If the rapidity of the pulse is very great, but yet the impulse regular, and if the impulse of the heart is weak, then a paralysis of the vagus is likely to be the cause.

2. But if in the beginning of the attack the cardiac impulse is strong and the peripheral arteries well filled, in a state of high tension, and if other symptoms of irritability manifest themselves in the vasomotor system, then a paralysis of the accelerating nerves may be looked upon as the cause. The attacks can be cut short by compression of the vagus in the neck, or by a deep inspiration. If they continue for a long period and there are signs of cardiac weakness, digitalis, in the form of inhalations after Gerhardt's method, is serviceable.

Dilatation of the Pupil in Locomotor Ataxia.—Dr. Angel Money (Lancet, January 20, 1889) has often observed dilatation of the pupil in cases of locomotor ataxia in which the pupil did not contract to light. This dilatation occurs only when the light employed in search for the Argyll-Robertson pupil is intense—such a light as that used in the ophthalmoscope room. He thinks that the dilatation is due to the intense light acting upon the conjunctiva (*i. e.*, fifth nerve), such as is supposed to happen in stimulation of the skin of the neck by pinching, or by the faradaic brush. In the cases in which he had observed the dilatation the pupils had not been very small.

Pneumonic Paralyses.—Dr. B. H. Stephan (Holland, Rev. de médecine, No. 1, 1889) reports several cases of paralysis occurring in a severe epidemic of pneumonia that he had witnessed. At the conclusion of an elaborate article he makes the following *résumé:* Paralysis may occur in pneumonia during its onset, course, or period of convalescence. The cause of the paralysis in some cases is a meningitis (cerebral, spinal, or cerebro-spinal); in other cases, again, no organic lesion can be found. For the cases coming under the first category, it must be assumed that an extra pulmonary localization of the pneumococci takes place; for those belonging to the second category, it is believed that the entire nervous system suffers from the pneumonic poison.

Tetany.—J. Hoffmann (Deut. Archiv f. klin. Med., Bd. xliii, Heft 1), in an extensive article based upon a number of cases that came under his notice, remarks that he agrees with Munk's conclusions that extirpation of the thyreoid gland is an important ætiological factor. The spasms, as a rule, were extensive. Muscular twitchings as a forerunner of the attacks were infrequent. The tendon reflexes were usually normal. Paræsthesia of the skin and muscles always preceded the attacks. Trousseau's sign (calling forth attacks by pressure on the main blood-vessels) was always present during the acme of the affection. The disappearance of this sign, however, was not always an indication that the disease was at its end. The electrical excitability of the nerves and muscles was always very much increased. The duration of the disease in the author's cases varied from six months to twenty-one years. He classified his cases into three groups: 1. Abortive cases, which ceased after one attack (very rare). 2. Cases which lasted for several weeks, in which the attacks occurred in groups, with longer or shorter intervals (most frequent of all). 3. Cases that recurred after intervals of several years, during which no evidence of the disease could be made out (chronic form).

The termination of the disease is usually a favorable one. The prognosis as to the course and duration of the disease is uncertain. Of the symptoms worthy of mention are the changing of the fingernails, falling out of the hair, and a brownish pigmentation of the hands and face. The author criticises all the opinions heretofore given as to the seat of the affection, but is unable to throw any new light upon this subject.

The Ætiology and Therapeutics of Cholelithiasis.—Th. Zarner, Jr. (Ctrlbl. für klin. Med., No. 51, 1888), says that cholelithiasis is frequent among elderly corpulent women prone to constipation, and in whom the power of expelling the bile (movements of the diaphragm, contraction of the muscles of the bile ducts, and pressure of the secretion) is defective. He does not ignore the influence of gestation and tight lacing. As prophylaxis he recommends exercise, especially after eating. In giving internal medicines, he has not so much in view the increase of the bile secretion as of diluting the bile. Croton-oil, colocynth, podophyllin, senna, aloes, and probably also calomel, act only as purgatives. Injections of water and the administration of ether and oil of turpentine he thinks of doubtful value. The biliary salts, bicarbonate of sodium, sulphate of sodium, and salicylate of sodium he considers as the most efficacious. During an attack of gall-stone colic he places great faith in antipyrine and in Tonatre's remedy (from seven to ten ounces of olive-oil, taken quickly, and followed by keeping the patient on his right side).

Pleuritis Pulsans.—G. Rummo (La riforma med.; Ctrlbl. f. klin. Med., No. 2, 1889), on the strength of experimental and clinical researches, draws the following conclusions:

1. A difference must be made between the visible pulsation in pleuritis pulsans—pulsus exopleuricus—which, with a graphic apparatus, without anything further, can be traced, and which possesses all the characters of the positive pulse, and the latent pulse—pulsus endopleuricus—which can only be made visible and traced where one binds the pleural space with a manometer apparatus.

2. For the existence of an endopleural pulse it is necessary to have a copious pleural effusion, preferably situated in the left side, which exercises a marked pressure, displaces the heart, compresses the lung, and renders tense the thick walls that inclose the cavity.

3. For the existence of an exopleural pulse, in addition to the foregoing, it is essential to have a marked bulging out of the intercostal spaces. The phenomenon is classically portrayed when the paralysis of the intercostal muscles has reached the highest grade, and when an ulceration and perforation of the costal pleura follow (empyema necessitatis).

4. Every condition which helps to bring the heart in closer apposition to the pleural sac, and which increases the heart's action, makes the endopleural as well as the exopleural pulse more distinct.

5. Withdrawal of the fluid, and the resulting diminution of the endopleural pressure, lessens the distinctness of the phenomenon.

6. The nature of the fluid has little to do with the production of the phenomenon, which may occur just as well in sero-fibrinous or sero-sanguineous effusions as in the purulent. That it is witnessed more frequently in the latter is due to the fact that in empyema there is greater tension of the walls of the pleural sac, and that there is almost invariably atelectasis and sclerosis of the lungs.

7. The interposition of an edge of the lung between the heart and pleural sac (Comby); adhesions between the heart and pericardium, between the pleural sac and chest-wall (Broadbent); the presence of gas in the pleural sac (Féréol); the presence of fluid in the pericardium (Traube)—are unimportant conditions, which may favor the appearance of the pulsation or the contrary.

8. Finally, the pulsus exopleuricus is not so rare a phenomenon as is generally believed, and the pulsus endopleuricus is a symptom which is present in almost all copious pleural effusions, particularly in left-sided ones, attended with considerable pressure, displacement of the heart, and compression of the lungs.

Experimental Researches on the Influence of Bitter Herbs on the Function of the Sound and Diseased Stomach.—N. Reichmann (Zeitschrift f. klin. Med., Bd. xiv, Heft 1 and 2; Ctrlbl. f. klin. Med., No. 49, 1889) has made a number of experiments on man in reference to this subject. His results may be summed up as follows:

1. The action of the different bitter remedies is about equal (herba centauri, folia trifolii fibrini, radix gentianæ, lignum quassiæ, herba absinthii).

2. In every fasting stomach, whether with normal secretion or attended with diminished or increased gastric secretion, the introduction of a bitter infusion is followed by a greater secreting activity than when simple distilled water is used.

3. When the bitter infusion is taken on an empty stomach, it stimulates the gastric secretive apparatus for some time after it has disappeared from the stomach.

4. Bitter infusions given at the same time food is taken interfere with the digestion of the latter; they seem also to interfere with the mechanical activity of the stomach.

5. The employment of bitter infusions for several weeks produces no functional changes in the healthy or diseased stomach.

Of practical importance is paragraph No. 3, which teaches us that bitter infusions should be given only when the secretory activity of the stomach is defective. In these cases the remedy should be taken half an hour before partaking of food.

Syphilitic Myositis.—J. Neumann (Ctrlbl. f. klin. Med., No. 38, 1888).—The muscles that may become diseased through syphilis include the external sphincter of the anus. This muscle is affected oftener even than the biceps. The affection sets in early in the stage of syphilis—much earlier than the affection of other muscles.

It manifests itself by severe pain and tenesmus during and after defecation. In severe cases the pain may last for hours and days. It occurs much more frequently in women. For the treatment of these cases the author advises general as well as local treatment, even if all the symptoms of syphilis, excepting this one, have disappeared. If, in spite of this, the pain persists, sphincterotomy should be done. The histories of six cases are given; in three of these sphincterotomy was done and the excised muscular tissue was examined microscopically. The changes affected principally the vessels of the perimysium, the walls of which were surrounded with granulation cells, and the nuclei of the sarcolemma were very much increased.

Empyema following Fibrinous Pneumonia.—Penzoldt (Deut. med. Ztg., No. 89, 1888).—Purulent effusions following pneumonia are, on the whole, rare, although the author has seen seven cases in the course of three months. The incomplete fall of the temperature curve may indicate that everything is not right, but there is no characteristic sign pointing to a purulent condition, and consequently it is frequently overlooked. Hence it is advisable in all cases in which convalescence is protracted, and the lung dullness persists for a longer time than usual, to make an exploratory aspiration. This is particularly advisable in practice among children. If the usual antiseptic precautions are observed no harm can result, even if no fluid is present.

Mitral Stenosis following Fracture of the Sternum.—Ritter (Berl. klin. Woch., No. 31, 1889) relates the history of a case of this kind. The patient was accidentally struck across the sternum by a large piece of wood, in consequence of which there was a transverse fracture of that bone. This united firmly in the course of the five weeks that the patient was kept in the hospital. At the time of his discharge a careful examination of the lungs and heart was attended with negative results. Three months later the patient consulted the author on account of palpitation and dyspnœa. On examination, a presystolic murmur was heard; the second sound was accentuated over the pulmonary cartilage. The radial pulse was irregular, small, and of low tension. The lungs were normal. The interesting feature of the case is the development of the valvular trouble, without any evidence of a cardiac perforating lesion at the time of the traumatism.

Puncture of the Bowel in Intestinal Obstruction.—Dr. O. Rosenbach (Berl. klin. Woch., 1889, No. 17) advises puncture of the distended bowel in complete obstruction. The arguments against this procedure are: (1) It is dangerous; (2) it does not accomplish enough, being merely symptomatic treatment; (3) it is with advantage replaced by laparotomy, done either for the formation of an artificial anus or for the removal of the obstruction. The first objection is met by observing certain details in the operation, which are careful antisepsis, the employment of a suitable cannula, proper selection of the site of puncture, and carefulness in the withdrawal of the needle. By observing the foregoing details the second objection is met. Regarding the third objection, no harm can be done in first resorting to the simple and safe operation of puncture. The histories of a few cases are briefly sketched bearing out the author's assertions.

[The article possesses particular value in connection with the author's former articles in the same journal on the pathology and treatment of intestinal obstruction. Many cases of this condition are merely functional and may be treated successfully by suitable diet, by paralyzing the bowel with small and oft-repeated doses of opium, and by treating symptoms as they arise.]

Miscellany.

New York Academy of Medicine, Section in Obstetrics and Gynæcology.—At a meeting held on January 23d, Dr. Egbert H. Grandin was elected chairman and Dr. J. H. Hance secretary for the ensuing year.

Floods and Sanitation.—Arrangements have been completed to hold a Tri-State Sanitary Convention at Wheeling, W. Va., on February 27 and 28, 1890. Representatives will be present with papers and addresses from Pennsylvania, West Virginia, and Ohio. The object of the convention is to consider the question of floods and their results from a sanitary standpoint, and the best methods of managing the sanitary interests of a given community after such a calamity.

Owing to the mutual relations held by these three States with reference to large rivers and the numerous towns in each one of these States that are annually affected by floods and their results, it has been thought wise to hold a convention for studying how best to manage the sanitary interests of cities and towns so affected.

Every person interested directly or indirectly in this important subject is earnestly requested to be present and assist in discussing the papers, and add whatever information he can to the solution of these practical and most important questions, affecting as they do the health and lives of thousands of citizens of these three great Commonwealths annually.

The late Dr. Lewis Hall Sayre.—At a meeting of the New York Pathological Society, held January 22, 1890, the following minute was adopted:

"The New York Pathological Society has heard with sorrow of the death of one of its most efficient members, Dr. Lewis Hall Sayre, which occurred during the night of January 2, 1890.

"Dr. Sayre was the son of one of the honored founders of this society, and was himself an active and valued member, having been a frequent attendant at its meetings and having served faithfully during the year just passed on one of the most important committees. While respected by all for his scientific attainments, he could count among the members of the society not a few warm personal friends whom his many excellent qualities of mind and heart had drawn around him. Lewis Hall Sayre was a skillful and a conscientious surgeon, a cultured and a kindly gentleman.

"The members of the Pathological Society, while extending to the bereaved father and to the family of their departed associate their most heartfelt sympathy, desire also to spread upon the minutes of the society an expression of their own sorrow at the loss which they have sustained."

[Signed.]
J. WEST ROOSEVELT, } *Committee.*
THOMAS L. STEDMAN, }

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending January 24th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Jan. 18.	1,597,343	1,151	..	..	..	..	..	..	2	9	24	2	14
Chicago, Ill.	Jan. 18.	1,100,000	616	..	..	..	..	..	..	13	5	30	1	6
Brooklyn, N. Y.	Jan. 11.	852,467	622	..	..	..	..	..	..	5	1	31	..	3
Brooklyn, N. Y.	Jan. 18.	852,467	581	..	..	..	..	..	..	1	4	18	3	....
Baltimore, Md.	Jan. 18.	500,343	286	..	..	..	..	..	..	3	1	5	10	....
Boston, Mass	Jan. 18.	420,000	345	..	..	..	..	..	..	1	1	16	..	....
San Francisco, Cal.	Jan. 10.	330,000	124	..	..	..	..	..	..	..	1	4	..	....
Cincinnati, Ohio	Jan. 18.	325,000	164	..	..	..	..	..	..	6	..	9	2	3
New Orleans, La.	Jan. 4.	254,000	130	..	..	..	..	..	..	2	..	..	..	....
New Orleans, La.	Jan. 11.	254,000	115	..	..	..	..	..	..	2	..	2	..	....
Detroit, Mich.	Jan. 11.	250,000	100	..	..	..	..	..	..	..	1	10	..	....
Washington, D. C	Jan. 18.	250,000	150	..	..	..	..	..	..	2	..	2	..	2
Cleveland, Ohio	Nov. 30.	235,000	69	..	..	..	..	..	..	1	2	7	3	2
Cleveland, Ohio	Dec. 7.	235,000	72	..	..	..	..	..	..	6	..	10	3	1
Minneapolis, Minn.	Jan. 18.	200,000	74	..	..	..	..	..	..	..	..	2	..	....
Kansas City, Mo.	Jan. 11.	180,000	58	..	..	..	..	..	..	1	1	..	..	1
Kansas City, Mo.	Jan. 18.	180,000	55	..	..	..	..	..	..	1	1	..	3	....
Rochester, N. Y.	Jan. 18.	130,000	69	..	..	..	..	..	..	1	..	1	1	....
Providence, R. I.	Jan. 18.	130,000	109	..	..	..	..	..	..	2	..	7	..	1
Indianapolis, Ind.	Jan. 17.	124,450	44	..	..	..	..	..	..	..	..	..	..	....
Richmond, Va.	Jan. 11.	100,000	32	..	..	..	..	..	..	..	..	..	..	....
Toledo, Ohio	Jan. 17.	92,000	28	..	..	..	..	..	..	2	1	7	..	....
Fall River, Mass.	Jan. 18.	69,000	44	..	..	..	..	..	..	..	..	..	..	6
Nashville, Tenn.	Jan. 18.	68,531	19	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Jan. 11.	60,145	37	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Jan. 18.	60,145	24	..	..	..	..	..	..	2	..	..	..	....
Portland, Me	Jan. 18.	42,000	39	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Jan. 3.	40.000	17	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	Jan. 18.	30.000	9	..	..	..	..	..	..	1	..	..	..	....
Auburn, N. Y.	Jan. 11.	26,000	17	..	..	..	..	..	..	..	..	1	..	1
Auburn, N. Y.	Jan. 18.	26,000	16	..	..	..	..	..	..	1	..	1	..	....
Newport, R. I.	Jan. 16.	23,000	15	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Jan. 11.	22,000	19	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Jan. 18.	22,000	14	..	..	..	..	..	..	..	..	1	..	...
Keokuk, Iowa	Jan. 11.	16,000	3	..	..	..	..	..	..	..	..	..	..	....
Keokuk, Iowa	Jan. 18.	16,000	4	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Jan. 12.	16,000	3	..	..	..	..	..	..	..	..	1	..	....
Pensacola, Fla.	Jan. 11.	15,000	9	..	..	..	..	..	..	..	..	..	..	....

The Health of Connecticut.—According to the State Board of Health's "Monthly Bulletin," the total number of deaths reported from 168 towns during the month of December was 948, including 6 from scarlet fever, 11 from cerebro-spinal meningitis, 74 from diphtheria and croup, 6 from whooping-cough, 9 from typhoid fever, 9 from malarial fever, and 7 from typho-malarial fever. There were also 125 deaths from consumption, 112 from pneumonia, and 37 from bronchitis.

ANSWERS TO CORRESPONDENTS.

No. 306.—The following are extracts from the laws regulating the practice of medicine in North Carolina: "It shall be the duty of the said Board (of Medical Examiners) to examine all applicants for license to practice medicine or surgery, or any of the branches thereof, on the following branches of medical science: Anatomy, physiology, surgery, pathology, medical hygiene, chemistry, pharmacy, materia medica, therapeutics, obstetrics, and the practice of medicine. . . . A temporary license may be granted, to continue in force until the next session of the Board. . . . A fee of $10 for a license, and, if a temporary license is issued, a fee of $5." Registration is required. Practicing without a license, a physician can not sue for services, and will be fined from $25 to $100 on conviction, or may be imprisoned, at the discretion of the court. We have been unable to obtain information about the practice of pharmacy.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

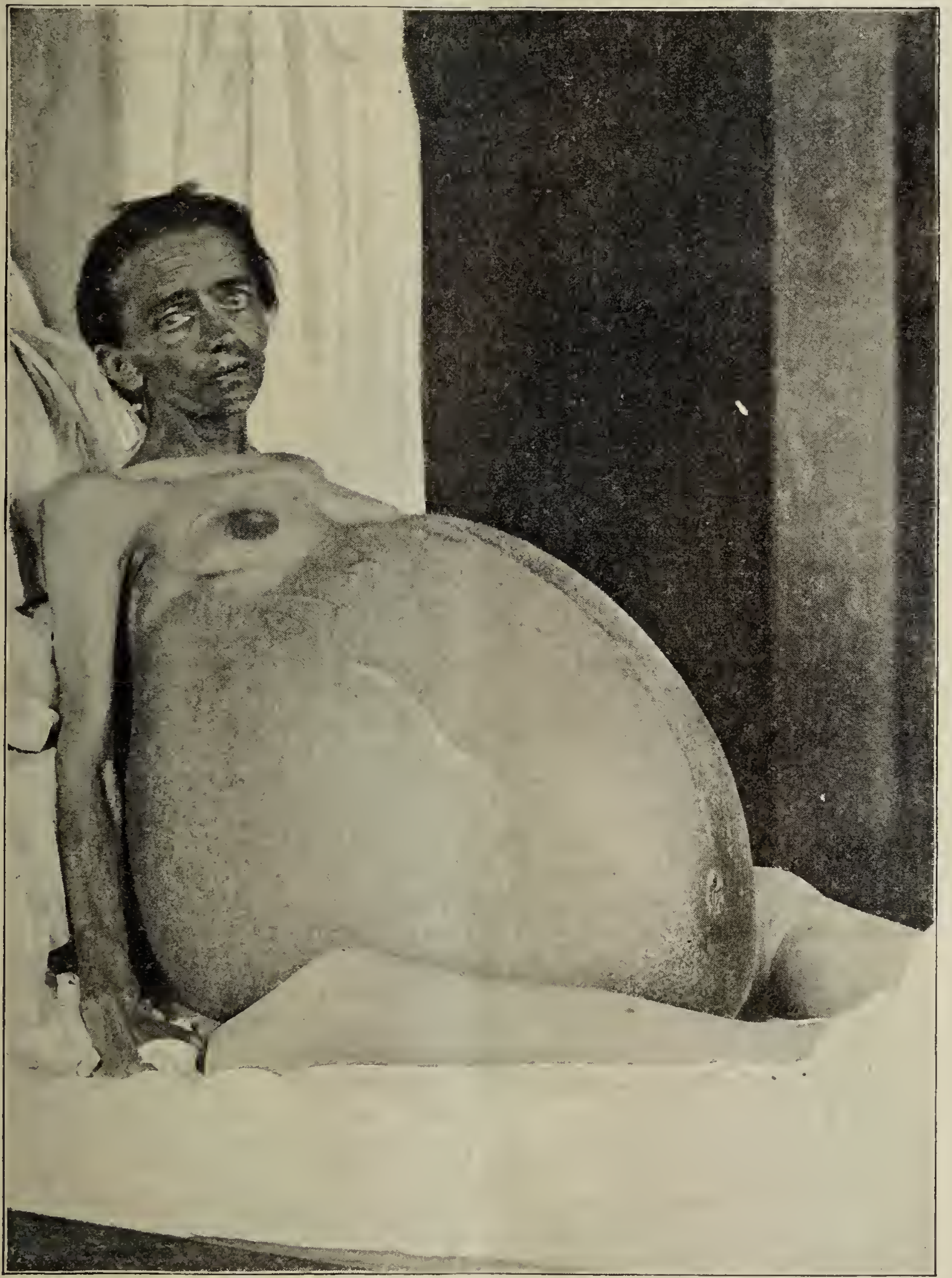
Original Communications.

A CASE OF
UNUSUALLY LARGE OVARIAN TUMOR.*

By CHARLES K. BRIDDON, M. D.

For many years I have not thought it worth while to record ordinary cases of ovarian tumor, but the extraordinary size of the following case will be regarded as sufficient to warrant the exception:

Case I. *Multilocular Ovarian Cyst of Unusual Dimensions, weighing One Hundred and Forty-nine Pounds; Operation; Death.* Reported by Dr. Henry L. Shively.—Lizzie B., aged thirty-six, United States, married, housewife. Her father died of phthisis; there is no other morbid family history. Thirteen years ago the patient had intermittent fever. She denies nephritic, specific, and rheumatic histories. There is no alcoholic habit. Menstruation has been normal until April of the current year, since which time there has been no flow whatever. Thirteen years ago the patient gave birth to a child. The placenta was retained two days; labor otherwise was normal. There have been no miscarriages.



About six years ago the patient first observed a tumor of about the size of an egg in the lower part of the abdomen, deep-seated in the middle of the left inguinal region. For five years following its first appearance the growth has been slow and gradual, and accompanied by but little pain. For the past eighteen months, however, the tumor has increased more rapidly, greatly distending the abdomen and rendering respiration difficult. Locomotion has been impeded for some weeks past by the size and great weight of the abdomen. The patient has emaciated somewhat, but her general health has been little affected. Appetite has been fair, bowels regular.

October 21st.—On admission into the Presbyterian Hospital in the city of New York, the patient presents for examination an enormously distended abdomen, measuring five feet four inches in its largest circumference, twenty-one inches from the tip of the ensiform appendix to the umbilicus, twenty-three inches on the right, twenty-four inches on the left side from the anterior superior spine of the ilium to the umbilicus, and eighteen inches from the symphysis pubis to the umbilicus. The superficial veins are greatly dilated and appear as channels or sinuses as large as the little finger coursing over the abdomen. On palpation, they are felt as distinct furrows, their walls being thin and yielding readily to pressure of the finger. The integument is tense and shining, and in places pigmented and brawny, especially below the umbilicus over the most dependent portion of the tumor. On percussion there is a distinct wave and thrill transmitted from one side to the other, and also the usual feeling of fluctuation in fluid tumors, somewhat obscured here, however, by the extreme tension. There is marked displacement of thoracic viscera upward, and the chest wall is abnormally prominent anteriorly. The apex beat of the heart is plainly seen and felt in the second intercostal space. The patient is anæmic and sallow; her features wear the expression of the typical *facies uterina.* The upper extremities are thin and wasted, the lower are œdematous from pressure of the tumor above. On admission, her temperature was 99° F., pulse 130, respirations 30. Weight two hundred and sixty-three pounds.

22d.—Urine on examination is acid in reaction; specific gravity, 1·015; contains no glucose or albumin and is normal under the microscope. ℞ Vini portensis, ℥ ss. q. 4 h.

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* Read before the New York Surgical Society, December 11, 1889.

23d.—The patient is put on the usual preliminary treatment for operation. Pubes is shaven, she is given a hot bath, and abdomen is dressed with potash soap.

24th.—Operation, 2.30 P. M., Dr. Briddon. Ether narcosis. Abdomen having been cleansed and made aseptic, the field of operation is surrounded with bichloride towels and the usual site in the median line is selected, midway between the umbilicus and the symphysis, where there are apparently no large veins. The first stroke of the knife, however, opened into a large venous sinus channeled in the œdematous walls, and so intimately connected with the surrounding tissue that it could not contract. Almost every application of the scalpel opened into similar conduits, and it was thus exceedingly difficult to arrest the bleeding, which was entirely venous. The cyst, which was adherent to the abdominal wall, was opened and gave exit to several gallons of thin, pale-brown fluid. When the force of its flow was nearly spent, a finger introduced came in contact with another cyst, from which, when opened by trocar, there escaped a very large amount of thick chocolate-colored fluid, holding in suspension glistening particles apparently of cholesterin. When the flow had lessened, fingers were again introduced and other cysts were opened. Some time was spent in evacuating these, and, when it was thought that the mass was sufficiently collapsed, an endeavor was made to separate the cyst from the abdominal wall. This was found extremely difficult, as the adhesions were old and dense, and everywhere the cyst wall was covered with large tortuous veins which required the prompt application of a large number of clamps. Only after the use of considerable force was an area of about eight or ten inches around the opening in the abdominal wall separated. Any further enucleation was utterly impracticable, and any further attempt, without even the probability of success, would have imperiled the cæcum and descending colon, which were firmly adherent. The general cavity of the peritonæum was not opened at any point. All bleeding vessels were ligated and the opening in the cyst was sutured to that in the abdominal wall, drainage being provided for by the introduction of eight large rubber tubes into the space between the cyst and the abdominal wall and into the cyst itself. The operation was concluded by the application of an antiseptic absorbent dressing and a firm binder, considerable difficulty being experienced in applying the latter on account of the excessive redundancy of the abdominal wall.

The amount of fluid which escaped and was collected weighed one hundred and twenty-six pounds. About three pounds were lost on the floor, and there remained fully ten pounds in several unevacuated cysts in the belly. The weight of the cyst wall was estimated at ten pounds. The patient's pulse and respiration required constant watching and stimulation during the operation, which lasted a little over two hours. The pulse was somewhat improved as tension was relaxed by withdrawal of the fluid, but became small and feeble, 120 to 130 in a minute, at the close of the operation. She was given stimulating enemata of hot whisky, put to bed, and surrounded with hot blankets and bottles. Temperature 96·5° F. She partially came out of the anæsthesia but did not rally, her pulse continuing rapid and feeble. Temperature before death rose to 100°.

Exitus letalis, 1 A. M., October 25th.

Autopsy. — Flabby walls of abdomen hang pendulous in heavy folds on either side of the body, touching the table. The free border of the ribs stands out prominently and the hand beneath the diaphragm readily reaches as far as the middle of the sternum. The diaphragm extends to the third space on the right side, to the third rib on the left. On cutting through the abdominal parietes in the line of the operation incision, about a gallon of viscid, glairy fluid escapes, resembling in consistency and color the white of an egg. The sac, with the exception of the space dissected away at the time of operation, is found to be inseparable from the abdominal wall. Posteriorly it is firmly adherent to the vertebral column. Superiorly the coils of the ileum and colon are found adherent to each other, to the omentum and mesentery, and to the great sac of the cyst. The intestine in this situation is found collapsed and ecchymotic. Bound down to the dorso-lumbar spine there are six or eight cysts varying in size from that of an egg to that of a cocoanut. In several of these cysts the fluid is chocolate-like in appearance, in others of creamy color and consistence; most of them contain colloid material. The cavity of the pelvis is blocked up and separated from the general cavity of the abdomen by dense and firm adhesions. When detached from these adhesions, the uterus and right ovary appear normal. The left ovary could not be found. The head and thorax were not opened.

The following case, that of a patient in the wards at the same time, illustrates the successful application of the same method of treatment of the cyst in a very much smaller tumor, and in one not complicated with adhesions:

Case II.—*Intraligamentous Cyst; Operation; Recovery.*—Reported by Dr. Frank Le Moyne Hupp.

History.—Laura B., widow, aged forty-one, admitted on September 13, 1889. There is no morbid family history. No rheumatic, malarial, or specific history. There has been œdema of the lower extremities, but only as a symptom of her present trouble; no other symptom pointing to a previous nephritic history. There is no cough or pectoral complaint, except slight dyspnœa on exertion. Twelve years ago the patient was delivered of a male child; the labor was a difficult one; instruments were used. She has had no other children. Menstruation up to the onset of the present trouble had been normal. She states that five weeks ago pain developed in her back, in the dorso-lumbar region; it was unremitting, and its character was sharp. Three days later she began to menstruate; the flow was unusually profuse; duration four days. About that time his attention was directed to an enlargement in the right iliac region; it was tender on pressure, and of about the size of a billiard-ball. The tumor rapidly increased in bulk from day to day, and its growth was associated with irregular shooting pains over the right abdominal region. Two weeks after the first symptoms developed she again menstruated profusely; since then there has been no vaginal discharge. The patient has been obstinately constipated; there has been more or less vesical irritation for the past two weeks; she has lost flesh and strength; her appetite has been poor.

On admission, the patient is poorly nourished and anæmic, and of a decidedly nervous habit. Urine contains a trace of albumin and hyaline casts; otherwise normal.

The patient presents for treatment an abdominal tumor, extending to a point midway between the umbilicus and the ensiform appendix. The tumor bulges anteriorly, and is especially prominent on the right side, measuring six inches from the umbilicus to the left anterior superior iliac spine and seven inches to the right. The largest circumference about the tumor is thirty-two inches; through the umbilicus girth it measures thirty-one inches. On percussion, there is dullness reaching two inches above the umbilicus. Resonance on the left side is obtained four inches from the median line; on the right side dullness extends as far as the axillary line. There is thus a center of dullness surrounded by "Tait's corona" of resonance. On palpation, the tumor is excessively tender, especially in the right iliac region; it is elastic and obscurely fluctuant. On auscultation, there is no bruit, no souffle or sound suggesting a fœtal heart. *Per vaginam*, the cervix is soft and the os is slightly patulous. The fundus of the uterus can not be distinctly made out, but a fullness is felt in the *cul-de-sac* of Douglas which renders it probable that there is a retroversion.

The patient was put on the usual preliminary treatment before the operation.

Operation.—September 28th, 2.30 P.M., Dr. Briddon, ether narcosis. The field of operation was carefully cleansed; every attention was paid to antiseptic detail. An incision was made, four inches in length, midway between the umbilicus and the symphysis pubis and over the linea alba. This incision was deepened carefully; the peritonæum was reached and opened. The hand was introduced into the abdominal cavity and the tumor and its environments explored. The growth—tense and obscurely fluctuant, it had no pedicle—was found between the widely distended folds of the broad ligament. A few adhesions were felt binding some of the intestinal coils to the posterior peritoneal covering of the tumor. The incision was extended upward to the umbilicus, and the convex anterior aspect of the growth exposed well at the abdominal opening; it was dull brick-red in color, and there were large veins meandering over the surface. By the use of a hypodermic syringe it was ascertained at this stage of the operation that the tumor contained fluid. A long trocar and cannula were plunged into the tumor, and a large quantity of yellowish, opalescent fluid was withdrawn. The flow suddenly stopped; the cannula was removed, and was found to be clogged with a yellowish-green, fibrous substance; this same fibrous matter occluded the opening in the cyst wall left by the trocar. When the opening was enlarged, it gave exit to about a pint and a half of fluid of the same character, and the hand introduced traced the bottom of the cyst down to the floor of the pelvis. The partially emptied sac was brought through the wound and the remainder of its contents evacuated. The fluid contents amounted to about a gallon and a half. At about four inches from its base the sac was cut off, a little at a time; it bled freely; hæmorrhage was checked by forcipressure. To bring the remaining sac wall into view, four strong silk sutures were passed through its edge, and gentle traction made on them by an assistant. The intestines were held out of the field of operation by hot flat sponges. By the employment of Lembert sutures the peritoneal covering of the sac was sewed to the parietal peritonæum. The edge of the sac wall was stitched to the abdominal wound by an interrupted suture of heavy twisted silk, a small opening into the peritoneal cavity having been left posteriorly for purposes of drainage. The edges of the wound were retracted and the cavity was flushed with water (102° F.) which had been previously boiled. A glass drainage-tube was placed in the peritoneal opening, and into the tube a long strip of iodoform gauze was carried. The sac cavity was packed with iodoform gauze; an antiseptic dressing and an abdominal binder were applied.

The patient was stimulated *per rectum* with hot whisky, hot blankets being wrapped around the body, and put to bed. The gauze was changed in the tube every two hours during the first night, and the fluid remaining withdrawn by means of a syringe, to the nozzle of which was attached a soft-rubber catheter.

The patient's recovery was uneventful. She was discharged, cured, on November 12th.

The Guinea-worm in Europe.—"The Guinea-worm, or *Filaria medinensis*, is not usually seen in northern Europe, but, of course, European travelers or natives of some Asiatic or African countries may bring it. A Brussels practitioner, Dr. Robinet, has recently had two patients suffering from this parasite among the members of a troupe of negroes from Accra, on the Guinea coast, who have been performing in Brussels this year. In both cases the worm was in the leg, and was removed in due time, after the cautious opening of the pustule which it produced, by the process of winding it very gently round a match."—*Lancet.*

TWO RECENT CASES OF TUBAL PREGNANCY.

*ABDOMINAL SECTION.**

By W. D. HAMILTON, M. D.,
COLUMBUS, OHIO.

With reference to extra-uterine gestation certain facts seem to be established: that it is a commoner occurrence than was formerly supposed; that the indications of its existence are often striking; that in the early history of the affection prompt operative interference is imperative; that the general practitioner should be familiar with its symptoms to be able to call to his aid the services of a surgeon; that either expectant or experimental methods of dealing with it are to be condemned; that the use of electricity and injections of lethal substances into the sac are fraught with uncertainty at every stage and are not devoid of danger; that exploratory section after proper division of professional responsibility, and after guarded explanations, is not perilous if properly done; and that, in view of the numerous incorrect guesses that have been made by men of acknowledged ability and professional experience, an average physician need not feel humiliated if, after the above precautions have been observed, some other condition be found than that which he had suspected.

Reliable data indicate that until recently one half of the women suffering from this condition died from rupture before the sixteenth week; and that of those who passed this period, the majority eventually succumbed to the disease. The cases that are to be cited would seem to confirm some of these notions.

Given a woman whose age indicates that some form of impregnation is possible. She is seen by the attendant to be suffering from severe abdominal pain and collapse for reasons not apparent until thorough examination has been made. Four hypotheses should be entertained, thoroughly tested, and excluded before the conclusion is reached that either abdominal neuralgia is present or that no satisfactory explanation of the terrible suffering can be given:

1. Biliary colic.
2. Renal colic.
3. Gastric ulcer with perforation.
4. Tubal pregnancy with rupture.

So far as the intensity of the suffering is concerned, any one of these suppositions is admissible.

Severe pain, accompanied with tenderness in the pit of the stomach or in the region of the gall-bladder, may indicate that it is of biliary origin and is due either to the passage of a gall-stone or of inspissated bile; further inquiry on this line may clinch the diagnosis.

As for renal colic, those who have seen it will testify to the intense suffering which it may cause, while the fact of its beginning in one loin, frequently following the direction of the corresponding ureter, being marked by soreness upon pressure over the kidney of the affected side, may well raise a question as to the presence of a stone in the kidney or ureter. If, in addition to this, sabulous matter or blood, one or both, have been seen in the urine, there is strong presumptive evidence of the correctness of the assumption.

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* Read before the Northwestern Ohio Medical Society, at Toledo, December 12, 1889.

Of perforating ulcer it may be said that it would be less liable to occur than either of the preceding conditions in one whose general health had been apparently good prior to the attack. Inquiry would elicit some suspiciously painful gastric symptoms as having previously existed.

Though perforating ulcer of the stomach might not be so readily recognized or excluded as biliary or renal colic, it would take much less time to apply these tests than is occupied in their description.

To assume that the four named suppositions are the only ones to be entertained as accounting for sudden severe pain in the abdomen attended with collapse is clearly unwarrantable, while their claim to early consideration is equally cogent.

Case I.—Mrs. M. A. S., of Columbus, aged thirty-four, had been married twelve years, her menstrual life prior to that time having been regular and uneventful. Had all her children survived, their ages would be eleven, nine, and eight years, respectively. She miscarried at the fourth month six years and a half since. Her health had never been good since the birth of her second child, she having had pain in the left groin before, during, and after her courses. They were regular, however, rather profuse, and metrorrhagia had never occurred. Leucorrhœa had persisted during the child-bearing period.

Between August 11 and 15, 1889, she menstruated scantily for three or four days. It was slow in coming on and pale in color. There was the usual amount of discomfort. In September the catamenial flow was absent. She had had an obstinate constipated habit, owing, as she supposed, to her sedentary life. During the latter half of August and throughout September, for unaccountable reasons, she was subject to profound melancholy. She was unable to sleep and had an indescribable feeling of languor. Her appetite, usually good, was capricious or very poor. Friends remarked her wretched appearance and her pallid lips.

By the 1st of October frequent and ineffectual experiences at stool had become extremely annoying. It seemed to her that there was a mechanical obstacle to defecation. To get relief, cathartics were taken, and they only intensified the irritation in the lower bowel.

At nine o'clock on the evening of October 1st, while straining in an outhouse, there was sudden severe pain in the back and lower part of the abdomen. Everything became black before her eyes. The pain, rather diffused, was continual and irregularly exacerbated.

She was first seen by the writer at ten o'clock on the same evening. A physician from the neighborhood, Dr. W. W. Homes, had given an opiate. Her appearance was that of a woman in collapse. Her features were pinched and anxious. The extremities were cold and the pulse thready, ranging from sixty to eighty beats a minute. The respirations were shallow and increased in frequency. The abdomen was tender, especially in the inguinal and hypogastric regions. Examination *per vaginam* showed that the cervix was slightly enlarged and the os patulous. The entire organ was lifted forward and crowded slightly to the left. The *cul-de-sac* was very tender, offering more than the normal resistance to the finger. It was impossible to outline clearly a lump in either groin or in Douglas's pouch. Tubal pregnancy was at once thought of, and, in view of the fact that an exploration might be deemed necessary, Dr. D. N. Kinsman was called in consultation. At his suggestion, the use of anodynes was continued, and at 2 A. M. relief was marked, although some pain persisted at intervals until the afternoon of the next day, October 2d, when there escaped from the vagina a mass which, upon examination, was found to be a membranous cast of the interior of the uterus. No fœtus was discovered. In order that the cavity of the womb might be explored, ether was administered and a finger carried in, when it was discovered that the organ was empty. Her experience during the month that followed was one in which there was occasional abdominal pain of moderate intensity with some tenderness in the lower part of the belly. The vesical and rectal disturbance continued.

On the evening of October 28th another paroxysm of pain occurred similar to the first. Examination by conjoined manipulation showed a lump in the right groin in close relation with the uterus. It was twice as large as an average fist. A distinct prominence was visible above the symphysis and to the right of the median line. Abdominal tenderness was extreme, as it had been in the former attack. On October 30th abdominal section was done in the presence of Dr. Kinsman and with the assistance of Dr. J. W. Hamilton and Dr. C. S. Hamilton. An incision was made, two inches and three fourths long, in the median line below the umbilicus. A large amount of black blood appeared upon opening the cavity. The fundus was found to be deflected toward the left. An ovoid tumor filled the right groin and *cul-de-sac.* The broad ligament was ligated on both sides of it, and the mass, which collapsed in handling, was removed. Severe arterial hæmorrhage occurred, but finally ceased. An enormous amount of fluid and clotted blood was generally distributed throughout the lower part of the peritoneal cavity, especially in Douglas's pouch. After thorough irrigation and the removal of an amount of clots that would seem to be incredible, a drain was inserted and a few stitches were employed to close the wound.

There was no febrile movement. The drain was removed on the fourth day and her convalescence was uniformly pleasant. Four weeks after the operation she was allowed to get up, since which time she has been perfectly well.

Case II.—At eleven o'clock Sunday morning, December 8th, the writer was called by Dr. Benjamin Lippitt, of Columbus, to see a patient who gave the following history:

Mrs. A. B., aged twenty-nine, married ten years, has borne three children, the last one two years ago. Four years since, she miscarried at the sixth week. Menstruation has always been irregular. It was commonly excessive, painless, and frequently lasted eight days. For two years prior to the establishment of the function (at the age of fifteen) she had persistent leucorrhœa. She was unwell for five days beginning October 1 and November 2, 1889, and both times it was normal. November 14th was remembered on account of severe pain in the lower part of the belly. On the morning of the next day, November 15th, blood spots were detected on her linen. During the next three weeks several gushes of blood or water issued from the vagina. On November 24th there were severe sharp pains across the abdomen, through the loins, and up under the short ribs, each about a second in duration. In the words of the patient, "I suffered untold agony on that day." Neither vesical nor rectal tenesmus was observed. A sanious watery discharge lasted from that date until the consultation of Sunday, December 8th. On the day preceding there was intense abdominal pain, accompanied with marked prostration, a source of great anxiety to the attending physician. At 11.30 A. M. Sunday the pulse registered 132, being thready in quality. Something was evidently radically wrong. Her complexion was sallow, her features pinched, the breathing rapid, and the extremities were cold. In other words, these facts, with extreme abdominal and vaginal tenderness, indicated bleeding and collapse. The temperature had been normal throughout. Vaginal examination showed a very sensitive condition of the posterior wall and *cul-de-sac*, the latter being forced downward by the soft fluctuant accumulation with which it was filled. The cervix, too near the vulvar orifice, presented a slightly patulous os. The fundus could not be located. The diagnosis of ruptured tubal-gestation sac was made, and she was sent into Mount Carmel Hospital on the same day. At 3 P. M., with the aid of Dr. C. S. Hamilton, an exploratory incision, in the presence of Dr. B. Lippitt, Dr. N. R. Coleman, and Dr. F. W. Blake, revealed a condition of things similar to that described in Case I. The amount of arterial hæmorrhage was comparatively slight. The tumor was ovoid, not larger than a lemon, and the site of rupture was easily discernible even before its removal. The abdominal cavity was flushed with warm water and as little time was spent in this way as was compatible with thoroughness. During the operation her pulse was 142 and her appearance most unpromising. A drain and stitches were inserted, hypodermics of brandy were administered, and the usual means were employed to minimize the shock. During the night sixteen ounces of a warm saline solution were given by transfusion and with marked effect. Four days after operation the pulse was 80, the temperature 98·6°. Her bowels had acted freely without interference. No anodynes were necessary. She had at no time afterward any abdominal symptoms. The drain was removed on the fourth day. Her convalescence was retarded by ague, which appropriate medication finally relieved, and she was discharged from the hospital, cured, January 5, 1890.

In the washings in the first case a fœtus an inch and a fourth long, and considerable placental tissue, were found. In the second instance only the latter was observed. In both specimens the site of rupture was clearly defined.

These cases tend to strengthen the testimony in favor of prompt surgical interference at this stage of the disease. The first patient could have been relieved a month earlier. In the second instance internal hæmorrhage was occurring, and the chances are that without incision she would have died within twenty-four hours.

Frequent observation of the pulse by Dr. Coleman tended to confirm the idea that operation did not intensify the shock.

These are the third and fourth cases in the writer's experience, two having been reported in the New York Medical Journal of July 28, 1888. In the three cases where operation was allowed, the patients are fortunately all living and well to-day. In the fourth, where elimination had been attempted piecemeal by natural processes through the rectum, a fœtus of five months caused the death of the mother from hæmorrhage and exhaustion. An operation was advised but not permitted.

A REMARKABLE CASE OF HYSTERIA IN A BOY.

By R. L. MACDONNELL, B. A., M. D.,
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THE following case, occurring in the practice of the Montreal General Hospital, may be found of interest when compared with some of the faith cures one reads so much about in the lay press:

On the 20th of September, 1887, W. S., a delicate lad of thirteen years of age, was admitted into my wards. Dr. W. G. Stewart, of this city, then a senior student, had told me of this case which occurred in his part of the country. The lad was said to have been paralyzed and struck dumb, and, the medical talent of the district having failed in effecting an immediate cure, the patient had fallen into the hands of an irregular practitioner who was reaping a goodly harvest of fees from the simple country folk. Among the many interesting features of the case was the fact commonly reported among the gossips that the boy, having ceased to speak as a man, had begun to bark like a dog. Dr. Stewart persuaded the parents of the boy to send him to the hospital. On his arrival we found him to be absolutely speechless and unable to walk. The legs were very much wasted and firmly flexed upon the thighs, and the general condition was one of debility. There was an incessant dry hacking cough which was not at all unlike the barking of a dog.

The illness began a little over a year ago with sickness at the stomach and pains of a dull character in both legs. The patient did not vomit, and, though he complained continually of uneasiness in the pit of the stomach, the appetite remained unimpaired. He continued in this condition, with symptoms increasing in intensity, until the beginning of November, 1886, when he began to cough, and continued doing so for ten days. It was very severe during the day, being absent during sleep and reappearing in the morning. There was no expectoration. At the end of ten days the cough disappeared completely, and was succeeded by persistent frontal headache, which has continued, with a few intermissions, up to the present date. In January, 1887, he began to complain of cramps in the legs. They gradually became strongly flexed on the thighs and resisted all efforts at extension, which invariably appeared to cause great pain. Spasms also affected the back and neck, causing the head to be retracted. The spasms became more frequent, and in the beginning of February, 1887, the legs became permanently flexed on the thighs, though they could still be extended during sleep. During February there was some contraction of both arms, which disappeared toward the end of the month. In January and February patient was said to have had but little sleep, and his appetite was poor during the winter. In the early part of March he began to complain of difficulty in speaking, and the voice became feebler and lower by degrees and finally left him completely. He has not spoken a word for the last six months. The cramps left him in April, but the legs remained still flexed on thighs. In June and July he felt well and ate heartily, but the general condition remained unchanged until September 4th, when cough again became violent and has continued ever since. Throughout the illness the patient has complained from time to time of numbness in legs, and "pins and needles" in hands. There is said to have been no loss of flesh. Previously to being taken ill a year ago he was quite strong and healthy, and was accustomed to take part in amusements with boys of his own age. The illness developed just when his parents were preparing to send him to school.

The boy is well nourished; complexion pale and pasty; skin moist; expression dull; when roused, looks worn and tired. Tongue clean; bowels regular; pulse quiet and regular; plantar reflex feeble.

The legs are kept constantly flexed tightly on thighs, and patient winces when any attempt is made to extend them forcibly. With some persuasion a leg may be separated from thigh to an angle of about 15°, but it returns immediately to its former position when released. The feet are kept extended. When he is asleep, both legs may be easily extended. There is a peculiar barking cough, accompanied by protrusion of the tongue, which recurs with fair regularity seven to eight times in a minute, but varies according as the patient is observed or not, being most frequent and severe when attention is drawn to it. During sleep the cough is absent. He prefers lying on left side with head buried in pillow, and will not speak, but answers questions by nodding with his head or making gestures. Eats well, and sleeps on an average from six to eight hours at night. No incontinence or retention of urine. Heart and lungs normal.

Urine.—Specific gravity, 1·030; no albumin or sugar. Heavy deposit of phosphates.

Family History.—One aunt hysterical. Mother suffers from neuralgia on left side of forehead. The parents state that the boy has always been very self-willed and difficult to manage.

September 23d.—Etherized. Under complete anæsthesia the legs were easily extended, but returned gradually to flexed position as the anæsthesia wore off.

24th.—Etherized. Legs extended and confined in this position by long side-splints and bandages. Complete extension could not be obtained on account of the contracted condition of the skin in the popliteal space. On recovering consciousness he appeared to be in great pain, was very restless, and made an attempt to take off the splints. The cough, which had stopped under full anæsthesia, never returned.

Treatment.—It was insisted on that the relatives should return home and leave the patient entirely in the hands of his medical attendants. Nurses and neighboring patients were cautioned against expressing sympathy, and were particularly instructed not to notice the fact that the boy was dumb. No medicine was prescribed.

26th.—Splints removed; slight slough on both external condyles of the femur from pressure of splint. During day the legs became gradually flexed to a right angle. During the night, noticing smoke in the ward, he called out in a weak voice, "Nurse, nurse, what's all this smoke?"

27th.—Says "Yes" and "No" in a very low voice.

28th.—Says "Good-morning, doctor," still in a very feeble whisper. Condition otherwise unchanged.

October 4th.—Speaks quite plainly and audibly; complains of pain in the soles of the feet.

March 14, 1888.—The subsequent history of the case is one of gradual improvement. The legs were not actually useful until he had been quite three months in the hospital. But from the moment the ether was administered he never coughed, nor was there any return of the "dumbness."

In a letter from the boy's mother to Dr. W. G. Stewart, dated August 26, 1889, it is stated that W. S. is in good health, grown tall and stout, and has not been ill since he left the hospital. "What I was surprised at, he did not seem to feel the cold as much as the others last winter."*

SULPHATE OF ATROPINE:

TWO FIFTHS OF A GRAIN HYPODERMICALLY.

By E. R. AXTELL, M. D.,
DENVER, COL.

A SHORT time since, I was called to see a woman who had taken nine one-eighth-grain morphine pills. She had taken them because she and her husband had had a quarrel an hour before, and she wanted to die. I at once responded to the call, and on my way to the place where the woman lay I stopped at a drug-store and obtained two powders of zinc sulphate, each twenty grains, and two drachms of a four-per-cent. solution of sulphate of atropine.

What I wanted was a solution four grains to the ounce, but in my hurry I called for and obtained a four-per-cent. solution. I distinctly recollect asking for a four-per-cent. solution, and the druggist assures me that that is what I got.

Obtaining this, I at once went to the house. I found the patient in bed, stupid, pupils contracted, and with all the objective signs of morphine poisoning. On the table before her was a pill-box labeled "Morphine pills, gr. $\frac{1}{8}$." Box empty. A sister of the patient said that the box had had nine pills in it, that it was bought by her sister a week before for insomnia, but that none had ever been used by her until this time. From the patient I ascertained that she had taken nine pills in all. She was a petite brunette, about twenty-six years old, and of very light build. On being pressed to answer questions, she would do so slowly and in a dazed condition. No rise of temperature; pulse, 96. I at once prepared one of my sulphate-of-zinc powders and gave it to her, which she took immediately. I waited three minutes, and then gave her the other. No response. I then gave her apomorphine hypodermically, one twelfth of a grain. This caused free and repeated vomiting, and the stomach was thoroughly emptied. Then, while some hot coffee was being prepared, I did the damage which calls forth this article.

It was my intention to give, for antagonistic purposes, two drops of my presumed four-grains-to-the-ounce solution of sulphate of atropine, or about a sixtieth of a grain. This I intended mixing with about eight or ten drops of water and giving hypodermically. This I remember of reviewing in a dim, misty way; but what should I do but draw into my syringe ten drops of the solution, and, the friends coming in then with the coffee, mechanically I injected into her arm the full ten drops. Immediately I realized what I had done, and, looking at the small label on my bottle, saw that I had a four-per-cent. solution instead of one of four grains to the ounce.

I was almost distracted. Hurriedly I figured that I had given her about half a grain of atropine, when I knew the dose to be from $\frac{1}{120}$ to $\frac{1}{60}$ of a grain. But I was calm; nothing in my countenance expressed what had been done. But I most anxiously watched my patient. I poured coffee down her; gave her brandy. Soon the pupils began to dilate, and in ten minutes they were fully dilated. The patient still remained sleepy and stupid. In forty minutes, however, the mind became excited, the patient became restless, and delirium followed. In this she used violent and foul language, and at times would laugh heartily. She would not drink anything unless forced to. Would only take a swallow at a time. Could not be kept still. Wanted to walk about. Went to work clearing up the table. Would do this, would do that. Used profane language whenever approached. Was decidedly hysterical about having her husband come near. The pulse now went up to 120 and became very weak. I used ether and brandy hypodermically, against which she very decidedly rebelled. The active delirium continued; the feet became cold and had to be wrapped up. The patient expressed a desire to make water, but could not urinate when given a vessel.

A prominent and persistent symptom was a constant desire to scratch and claw at the skin of both the body and the limbs. She seemed to have great paræsthesia. For three hours delirium and restlessness continued. In that time she wandered all over the house, did many simple things, talked incoherently most of the time, but at times expressed herself well. Not a few times did she make use of foul and abusive language and laughter. She was then put to bed, and remained there for an hour. She did not sleep; she would close her eyes, remain still for a short time, and then change her position. She would remain in bed for an hour, then get up and sit in a chair; sit there for quite a while. The mind gradually became clearer. Pulse, 114 and stronger. After slight mental effort, the patient would begin talking incoherently and would smile and laugh without cause.

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* In October, 1887, the case passed out of my hands into those of my colleague, Dr. George Ross, owing to a change in the service of the hospital. I am therefore indebted to him for permission to make use of the case-book notes relating to the second half of the course of the disease.

Afterward she was put to bed, and in an hour or two was able to sleep. This was about seven hours after the dose had been given. Pupils still dilated; much dryness of throat and tongue complained of. Sleep very restless and broken. Some talking in sleep. Next morning the mind was all right, and the patient, when told of what she had said and done, was very contrite. Pulse, 84. Bowels had moved once. From this time the recovery was constant. The pupils remained dilated for almost a week, and the dryness of throat lasted for several days.

When fully recovered, she stated that it was her last attempt to commit suicide, and here I may state that it is my last time to give two fifths of a grain of sulphate of atropine.

I report the case because, in my estimation, it is an interesting one in many respects, and, though it does me much discredit, yet something may be learned. The reason the atropine was given was for its supposed antagonistic effect to morphine. The action of the two drugs can be well shown in parallel:

Morphine	Atropine
Contracts pupils;	Dilates pupils;
Slows respiration;	Increases frequency of breathing;
Produces stupor, or coma;	Active talkative delirium;
At first slightly quickens cardiac action, but afterward slows it, with pulse full and firm;	Increases rapidity and force of cardiac action;
Increases secretion of skin.	Diminishes secretion of skin.

It can thus be seen that a natural antagonism exists between the two drugs in their ordinary action, and from this it is supposed that one would be of use in the toxæmia produced by the other.

Another point of interest was the time when the drug was given, and the length of time the active talkative delirium continued. It was given forty-five minutes after the ingestion of the morphine and just when its effect was becoming pronounced. But for this, I believe the dose I gave her would have been fatal.

Because of the morphine in the system, it seemed that the toxic effect of the atropine was delayed, and not only delayed, but, as I believe, appreciably lessened. While it seemed as though atropine poisoning had been substituted for the morphine toxæmia, still at no time did the pulse go over 120, nor the respirations over 24. Something seemed to hold them in check. The mind was the most seriously disturbed, and the atropine exerted its full power here. For over six hours the patient had active delirium and restlessness, and rest in bed brought no repose.

Of course, the size of the dose is the most important feature in the case—ten drops of a four-per-cent. solution, or two fifths of a grain; and this hypodermically. If it had been given by the mouth some emetic might have been of service, but here nothing could reach it. I thought of jaborandi and muscarine, but no drug-store was near, and hence I relied on brandy and coffee, and ether hypodermically when the pulse became weak, and the counter-poison—morphine—already in the system.

The result obtained—complete restoration—was hardly expected, but was most welcomed. I can be counted as one having full faith in the antagonistic properties existing between morphine and atropine.

AN HIATUS IN THE ANTERIOR PILLAR OF THE FAUCES,

COUPLED WITH A SUPERNUMERARY TONSIL ON THE OPPOSITE SIDE.

By JOHN HERBERT CLAIBORNE, M.D.

A young lady of twenty-five, well developed, consulted me concerning a slight deafness in her left ear. The drum exhibited the signs of chronic middle-ear catarrh in a mild degree. Inspection of the fauces revealed the fact that there existed on the left side a supernumerary tonsil; it could be seen only when the laryngeal mirror was used or the tongue forcibly depressed. It was situated about a quarter or a third of an inch above the insertion of the palato-pharyngeus muscle where it passes into the thyreoid cartilage, and projected from the free border of this muscle. It nevertheless was somewhat incorporated in the depth of the muscular tissue, and evidently was part and parcel of the natural tonsil which had been prolonged downward.

Its size and color was that of a small wild strawberry. The patient complained of tickling on that side of the throat. The tonsil was painted several times with a ten-per-cent. solution of cocaine, and was then amputated painlessly with a small amygdalotome, down to the edge of the pillar.

It was true tonsil, as was shown by the existence of typical follicles and circumfollicular tissue.

On the right side there was a small hiatus of the anterior pillar of the fauces, situated above and to the outer side of the median line of the pillar. Its long axis was downward and outward, and its length was, perhaps, a sixth of an inch, while its transverse diameter varied somewhat with the movements of the fauces. A probe passed into the opening met with resistance only above and outward, where the pillar joined the tonsil and circumtonsillar tissue.

There were likewise two small blind hiatuses downward and to the outer side of the line of prolongation of the first described.

While the existence of both of these abnormities has been already recorded, it seems to me to be worth my while to record these instances, and especially so, seeing that both occurred in the same patient and one on either side of the throat. That there should be on one side an arrest of development and on the other an over-development seems to me to be peculiarly interesting.

10 East Twenty-eighth Street.

The Kansas City Ophthalmological and Otological Society.—The ophthalmic and aural surgeons of Kansas City, Mo., have organized a society under the foregoing title, having in view the advancement of ophthalmology and otology. Meetings will be held quarterly, on the second Wednesday in January, April, July, and October.

THE
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Edited by Frank P. Foster, M. D.

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THE VIENNA MEDICAL SOCIETY.

Perhaps some of our readers who not long ago listened to Dr. Jacobi's address on the occasion of the laying of the cornerstone of the New York Academy of Medicine's new building, in which he sketched the chief steps in the Academy's progress, may have wondered how its career compared with those of like bodies in older countries. Such a curiosity may now be gratified by the perusal of a history of the Royal Imperial Society of Physicians of Vienna, embracing the period from 1837 to 1888, written by the society's librarian, Dr. S. Hajek.

At the time of the outbreak of cholera in Vienna in 1831 the physicians of that city were struck with the need of greater solidarity in their work. To meet this want, the Court Physician, Dr. Wirer, called them together with a view to concerted action in stemming the epidemic; but it was not until 1837 that a society was formally organized. For a number of years before that time there had been weekly gatherings at Dr. Mauthner's house, but the society founded by Wirer was the first one officially recognized and possessed of a regular organization. New members were admitted after having been duly proposed and voted upon, and, so far as possible, only such men were chosen as were known to have been actuated in their choice of a profession by the love of science and of humanity. In spite of this great carefulness, however, dissensions frequently arose, springing either from divergence of opinion or from the monetary embarrassments that so commonly afflict new societies. From time to time ineffectual efforts were made to join forces with the medical school, the younger body hoping to gain a wider field for its activities by sacrificing its separate existence. Much difficulty was felt in finding proper rooms, for as the society became more popular its various quarters grew inadequate, so that frequent migrations were made necessary.

The government has always taken a great interest in the society, and frequently aided it materially, demanding in return the examination of questions pertaining to the public welfare. The presidents have been men of great note and actuated by the highest principles—Malfath, Wirer, Güntner, Rokitansky, Hebra, von Arlt, Bamberger, and Billroth. The society's proceedings, in their various forms of publication, have always constituted solid contributions to the literature of medicine. For a number of months past they have appeared in the form of a weekly journal.

A NEW CONSTITUENT OF TEA.

In the Zeitschrift für physiologische Chemie Rossel writes of a new base, theophylline, found by him in an alcoholic extract of tea sent him by Dr. F. Witte, of Rostock. The greater part of the caffeine had been eliminated by crystallization. After various manipulations to remove other bodies, an ammoniacal solution of silver precipitated a double salt of theophylline and xanthine. The xanthine was removed by several hours' evaporation, which process, being continued, gave rise to brown needles of theophylline containing one molecule of water of crystallization and having the formula $C_7H_8N_4O_2$.

Theophylline is isomeric, but not identical, with theobromine and paraxanthine. Its crystals are colorless, thin, narrow, about five millimetres long, bounded by two flat surfaces and by two that are variably rounded. The diagonal section is hexagonal. It melts at 264° C., crystallizes readily from a watery solution, and dissolves easily in warm water and in weak ammonia-water, but not so readily in cold as in hot alcohol. The crystallized chloride is obtained by evaporating with hydrochloric acid. The salts seem to be decomposed by water into their constituent parts of acid and base. If platinic chloride is added to a concentrated solution of theophylline chloride, quadrilateral crystals are formed. The double gold salt, as well as the double platinum salt, crystallizes in acicular forms, grouped in tufts in the former. This grouping is found in the very important compound formed with sodium. If theophylline is evaporated with nitric acid, a yellow body results, which becomes still yellower if ammonia is added, and not red, as is the case with xanthine. In the "Weidel reaction" with a solution of chlorine, with evaporation to dryness, a scarlet substance remains, which turns violet when treated with ammonia, and becomes colorless when treated with an excess of sodic hydrate.

These same reactions take place with theobromine. The analogy between theobromine and theophylline led Rossel to suppose that, as the former was a dimethylxanthine, and caffeine a trimethylxanthine, theophylline might have a similar constitution. The question was decided by treating the silver salt of theophylline with methyl iodide, with the addition of methyl alcohol, in a closed tube for twenty-four hours at 100° C. On cooling the tube, a coherent mass of silver iodide was found, bearing a voluminous crystallized substance. These crystals dissolved in hot methyl alcohol, and separated again on cooling. Analysis showed that the addition of a methyl group had taken place. The resulting body was identical in reactions with caffeine.

The position of the methyl group now remained to be determined. E. Fischer had proved that under the conjoint influence of potassic chlorate and hydrochloric acid theobromine was decomposed into monomethylalloxan and monomethylurea, thus giving a methyl group to each resulting body. His method being employed, a substance was formed that was identical with amalic acid, an oxidation product of caffeine discovered by Rochleder. This is formed from caffeine by the same method as from theophylline, and is a reduction product of dimethylalloxan, being itself tetramethylalloxantin. Both methyl groups are thus contained in the alloxan radicle. Strecker, in his synthetic experiments on theobromine, discovered a substance isomeric with it, and Rossel supposes it to be identical with the one he has now described.

MINOR PARAGRAPHS.

THE LATE SIR WILLIAM GULL.

Sir William Gull, whose death we announced in our last issue, was one of the most eminent men in the medical profession in Great Britain, a man who for very many years enjoyed a reputation as a physician second to none in the world. The cause of his death was cerebral hæmorrhage, from which on several previous occasions he had suffered. From the very beginning Sir William Gull devoted himself to the hard work, the truly scientific part, of a medical career, and, although of late years as the result of his labors he fell in for a large share of high-class consulting practice, he must not be regarded as a successful consultant, but as an industrious, practical clinical student. Sir William Gull was born in 1816, being the youngest son of Mr. John Gull, of Thorpe le Soken, in Essex. He was a Guy's Hospital man and was associated with that hospital and its medical school during the whole of his professional life. He was graduated M. B. at the University of London in 1841 and M. D. in 1846. At his hospital he passed through the several grades of minor appointments and served as full physician for the period of twenty years ending in 1867. In 1872 the honor of a baronetcy was conferred upon him in recognition of his valuable services during the fever from which the Prince of Wales was a sufferer at the close of the preceding year. Even to enumerate the positions of trust held from time to time by the late baronet would occupy more space than is at our disposal. His honors came alike from the profession, from the public, and from the Crown. He was physician extraordinary to the Queen while he was president of the clinical society, and an honorary D. C. L. of Oxford while he was a member of the General Medical Council. Gull wrote no books, but very many valuable essays prove the good professional work he did in his time. His report on the cholera, drawn up in 1854 (in conjunction with Dr. Baly) at the request of the Cholera Committee of the Royal College of Physicians, is a most important and valuable monograph. His views on the subject of arterio-capillary fibrosis and the duration of acute rheumatism are recent and fresh in the memory of the readers of this Journal.

FAITH-HEALING AND CHRISTIAN SCIENCE.

In Sir James Crichton Browne's remarkable address in psychology, on the Hygienic Uses of Imagination, the superstitions known as faith-cure and Christian science receive some passing mention. Even degenerated or aborted faith, or monstrous or dilapidated superstition, has its effect upon the human organism, and is capable of removing certain functional disorders. Faith cure and Christian science have performed their miracles on hypochondriacal men who have fallen into driveling egotism, on hysterical girls who have entertained demons not unawares, and on some few sincere and highly sensitive persons who can pass at a touch out of one allotropic state into another. But the small good thus obtained is as nothing compared with the evil of postponing medical treatment when it is really needed, and it induces an attitude of mind that is debilitating, and therefore conducive to the incursion of disease. Patience is difficult before records of disease that was evidently simulated or purely subjective, that ran its natural course and departed, whether at the word of command or not. It is suggested that the curers and scientists try their impalpable arts on skin diseases—woo the *Acarus scabiei* from its burrow without the aid of brimstone, arrest lupus, and wipe out a nævus. Palmistry and astrology—ancient and more picturesque forms of superstition—are strictly suppressed, while the Peculiar People go scot free, unless it can be proved that a life has been sacrificed. Pasteur is assailed by benevolent busybodies, whose zeal is only commensurate with their ignorance. Why not transfer these attentions to a class of persons who are really performing painful experiments on living animals—to the "curers" and "scientists" who, by well-meant but futile inunctions, protract suffering that medical aid might sometimes speedily relieve?

THE EPIDEMIC OF DENGUE AT BEIRUT.

Dr. Ira Harris writes to the Albany Medical Annals about the epidemic of dengue which has raged at Beirut, Syria, and in the vicinity, extending even to villages three thousand feet above the sea-level. In one village, during the height of the attack, there were so many down with the disease that there were not enough well persons to care for the sick. Dengue is a yearly visitant at Beirut, coming on in the late autumn, and being confined to a small number of cases; but every six or eight years it takes the form of a severe epidemic. This year it began in the middle of the hot season and was the most serious epidemic known to the present generation. Over twenty thousand cases, it is estimated, occurred in the city alone, and in the suburb several thousands more. Every physician in the city suffered from a more or less severe attack of the disease. The Arabs call it *abou rickab*, or father of the knee, one of the early symptoms being a sharp pain in the muscles of the leg and in the joint itself. So painful is it at times that the least attempt at movement will cause an outcry of anguish. Death is very rare from this cause alone, but it may precipitate a fatal issue in persons who are already in ill health.

A CASE OF CREOLIN POISONING.

A non-fatal case of poisoning by creolin has been reported by Dr. von Ackeren in the Berliner klinische Wochenschrift—that of a would-be suicide who swallowed nearly nine ounces. He soon became unconscious, and in this condition was taken to the hospital. The next morning he regained consciousness, and severe vomiting came on and continued twenty-four hours. The urine was colored greenish-black and gave cresol reactions; there was albuminuria with some corpuscles and renal epithelium. After the third or fourth day a gradual improvement began and the patient was discharged cured in the third week. The British Medical Journal says that the enormous dose taken is a most powerful testimony of the innocuousness of creolin, especially as compared with carbolic acid, and it may very properly be assumed that the small quantities that may be used as external applications can have no appreciable physiological effects.

THE PASTEUR INSTITUTE.

The work of the Pasteur Institute in Paris for the year 1889 is reported to have been as follows: During the twelve months ending in November, 1,830 persons were treated, of whom eleven died, giving a death-rate of 6 in 1,000. As usual, a certain proportion of the deaths occurred in persons who were attacked with rabietic symptoms before the completion of the course of inoculations. Excluding these, the death-rate would probably fall to between 3 and 4 in a thousand.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 4, 1890:

DISEASES.	Week ending Jan. 28.		Week ending Feb. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	26	5	9	2
Scarlet fever	66	10	81	8
Cerebro-spinal meningitis	2	1	0	1
Measles	77	6	77	8
Diphtheria	98	23	110	26
Varicella	5	0	5	0

The New York Academy of Medicine.—At the next meeting of the Section in Surgery, on Monday evening, the 10th inst., there will be an exhibition of clinical cases and Dr. W. T. Bull will read a paper on the Results of the Treatment of Fractured Patellæ without Operation.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 13th inst., there will be a presentation of patients; Dr. E. L. Partridge will report the history of a Case of Sudden Death in an Infant from an Unusual Cause; and there will be a discussion on the Quantity and Frequency in Infant Feeding. In connection with the discussion Dr. A. Seibert will present a new apparatus, with tables, making the weight, and not the age, the guide as to quantity.

The Harlem Medical Association.—The programme for the meeting of February 5th included the presentation of a case of resection of the shoulder and elbow joints, by Dr. A. von Duering; papers on Mouth-breathing, by Dr. R. E. Swinburne, Dr. A. M. Fanning, and Dr. E. Fridenberg; and a memorial of the late Dr. David C. Cocks, by Dr. M. McLean.

The Cincinnati Polyclinic.—Dr. C. S. Ayres has been elected president of the faculty.

The Death of Professor Westphal, the well-known Berlin neurologist, is announced. The Lancet had previously reported his serious illness and the temporary assignment of Dr. Oppenheim as his successor.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 26 to February 1, 1890:*

Macauley, C. N. B., Captain and Assistant Surgeon. By direction of the Secretary of War, the extension of leave of absence granted in S. O. 294, December 18, 1889, A. G. O., is further extended one month. S. O. 22, Par. 1, A. G. O., January 27, 1890.

Middleton, Johnson V. D., Major and Surgeon. Leave of absence for fifteen days is granted. Par. 9, S. O. 21, Headquarters of the Army, A. G. O., January 25, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending February 1, 1890:*

Berryhill, T. A., and Wentworth, A. R., Assistant Surgeons. Ordered to examination preliminary to promotion.

Rush, C. W., Passed Assistant Surgeon. Detached from the Naval Academy and placed on waiting orders.

Decker, C. J., Assistant Surgeon. Ordered to the Naval Academy February 1st.

Green, E. H., Passed Assistant Surgeon. Detached from the Alert and placed on waiting orders.

Beardsley, G. S., Medical Inspector. Granted extension of leave to April 30th, with permission to remain abroad.

Society Meetings for the Coming Week:

Monday, *February 10th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private—anniversary); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *February 11th:* New York Medical Union (private); Medical Societies of the Counties of Delaware (semi-annual) and Rensselaer, N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

Wednesday, *February 12th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Pittsfield, Mass., Medical Association (private); Franklin, Mass., District Medical Society (quarterly—Greenfield); Philadelphia County Medical Society.

Thursday, *February 13th:* New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; New York Laryngological Society; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *February 14th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties.

Saturday, *February 15th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Letters to the Editor.

POISONING BY ILLUMINATING GAS.

1406 Corcoran Street, N. W.,
Washington, D. C., *January 21, 1890.*

To the Editor of the New York Medical Journal:

Sir: On the morning of January 14th of this year, with Dr. Sowers and Dr. Burwell, I was called to a white woman, forty-seven years old, asphyxiated by illuminating gas. She had received over six hours' dose of it in a small room, and life was as nearly extinct as possible without being entirely gone. I gave her hypodermically one fiftieth of a grain of nitroglycerin, which acted like a charm, as the effect was instantaneously perceptible, and she recovered by evening after a second dose at an interval of three hours. In justice to Dr. Kloman, of Baltimore (whose article on the subject in the October 26th number of your valuable Journal I had read and made a note of), I will say that I am indebted to him for the valuable information by which this patient's life was saved. I would suggest that the many "Physicians' Visiting Lists" include in their printed suggestions this treatment as reliable for asphyxiation by illuminating gas.

F. X. Dooley, M. D.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-fourth Annual Meeting, held at Albany, on Tuesday, Wednesday, and Thursday, February 4, 5, and 6, 1890.

The President, Dr. Daniel Lewis, of New York, in the Chair.

The Inaugural Address.—The President, in the course of a brief inaugural address, expressed his appreciation of the honor conferred upon him. He considered that there was no preferment among medical men to be compared with that of the presidency of such an ancient, honorable, non-sectarian, and progressive society. Its prestige would never be lost and it would continue to be the vanguard of medical progress in the United States for all time. The material interests of the society had prospered to such a degree that a balance could be reported as in the hands of the treasurer after all outstanding obligations had been met.

It was proper to inform the members that a small deficiency had arisen during the past few years from the failure of some county societies to purchase all the volumes of Transactions which had been published. He suggested that a subscription list should be opened at once so that members might subscribe for the number of books they would purchase. It was also possible that some journal of medicine, printing the society's papers, might give the benefit of the composition and thus reduce the cost.

As to the question of membership in the society, while he agreed that this should not be so easily acquired as to diminish its value, yet there existed a necessity for a larger membership than was secured by the present plan. A more extensive membership would bring the society closer to the great body of physicians it represented. He would submit the question as to whether every president of a county medical society should not become a member of the State society by virtue of his office. The plan, if now in force, would this year have increased the society's membership by forty-four, with a corresponding increase in income. It would enhance the value of the president's office in the different counties and secure the cordial support of all these societies. This was a right which most great representative organizations accorded. The question of the care and treatment of the pauper and indigent insane in the counties of the State was again before the Legislature, having failed to become a law last year. The State charities and associations deserved to be aided by every member of the State society in its endeavor to place all these insane in State asylums, except in New York and Kings Counties. The proposed law was in the interests of the poor insane only, and was not a political measure in the slightest degree. It would effect the speedy removal of nearly two thousand victims from poor-houses, in many respects unfit for asylum or any other good purposes, and place them in State institutions. The State Commission in Lunacy had visited all these poor-houses and had unanimously indorsed the provisions of the bill. It was not only a humane measure, but was one calling for prompt action. It was hoped that the indorsement would be unanimous. The present status of the bill providing for a State Board of Examiners would be fully set forth in the report of the Committee on Legislation. It was to be regretted that the bill had not yet become a law, and the mission of the society would never be fulfilled until this bill had been carried through the Legislature and become a law of the State. It would seem proper to mention the charitable work of the New York Physicians' Mutual Aid Association. It was strictly a charitable organization, its officers and directors serving gratuitously, and all money collected being paid for the purposes enumerated. A similar organization in Great Britain was considered worthy of being an integral part of the British Medical Association. It would greatly aid the trustees if the State society would formally commend the work of the association to the officers and members of the various county societies represented. Speaking of the members whose death the society had to mourn, the president referred specially to the late Dr. John C. Dalton and Dr. W. M. Brown, of Bath.

The meeting was then occupied by receiving and considering the reports of various committees and the transaction of executive business. The reading of papers was then proceeded with.

The Use of Belladonna in Spasmodic Contractions of the Neck during Labor.—This paper, by Dr. S. S. Cartwright, of Roxbury, was read by title.

The Time Element in saving the Perinæum.—This paper was read by Dr. R. L. Dickinson, of Brooklyn. The author laid stress on the importance of delay. The more slowly and evenly the head was delivered, the less was the chance of injury. If twenty to thirty minutes were insured for the distension of the vulva, injury would rarely occur. The methods of delay were two—chloroform and manual restraint. Experiments on the cadaver in slow and rapid stretching of various tissues were cited showing that tissues would stand about a third more weight and stretching if the force was gradually applied. The skin of fat patients gave way easier and stretched less than that of lean individuals. Between the ages of eighteen and twenty the skin was twice as yielding as between thirty and thirty-five. The order of giving way was (1) adipose tissue, (2) fascia, (3) muscle, and (4) skin. When a double layer was distended from within, the inner surface ruptured first. Experiments showed that the perineal body ordinarily thinned to one sixteenth of an inch as the head slipped out. The tabulated cases demonstrated that whereas in primiparæ twenty-one to thirty-four per cent. of ruptures occurred ordinarily, by taking twenty to thirty minutes to shell out the head this might be reduced to fifteen per cent. Nine slow forceps deliveries in multiparæ were without injury. (Superficial lesions of skin and mucous membrane were not counted.) Thirty-three slow forceps extractions in primiparæ gave twenty-four per cent. of injuries, many being bad cases. The rapid cases showed larger percentages of injury—ten rapid extractions of the head (mostly breech cases) gave ten ruptures. The sphincter was torn once only.

Dr. H. C. Coe, of New York, thought that too much stress was laid upon the preservation of the perineal body. His teaching certainly had been that it should be a point of honor that not the slightest nick should exist after difficult cases of primiparæ. It was now known that the perinæum might appear to be perfectly intact and yet in a few months it would be found that the support was absent. There was no tear in the skin, mucous membrane, or perineal body, but the mischief lay in the pelvic floor itself.

Dr. Emmet said that it was important to understand what constituted a laceration of the perinæum. From the speaker's standpoint the early teachings were very erroneous and the devices which had for their object the preservation of the perinæum from laceration were also futile. There was no better way to insure an injury to the perinæum than applying pressure. When a woman was supposed to have a laceration of the perinæum the injury was almost entirely in the fascia and not in the muscles. In an ordinary case of labor the vaginal opening was enlarged by the stretching of the fascia forming a sulcus on each side. Just in proportion as the parts were pushed back toward the coccyx would the vagina open. When rupture took place under ordinary circumstances, the damage was done long before the head reached the perinæum. Under normal conditions the tear always took place from before backward, the reverse being the case when the forceps was employed. The term "laceration of the perinæum" should never be used except when the sphincter ani was torn. He had seen a number of cases where the child had ripped through into the rectum, leaving the fourchette perfect, to be cut by a pair of scissors.

Dr. W. W. Potter, of Buffalo, agreed that the tear arose in the fascia and began within, and it was superfluous to attempt to prevent it by support from without. Rather than give artificial support from below just at the final moment, it was a wiser procedure to administer a little chloroform and then introduce two fingers of the left hand into the rectum and seize the head and in that way enucleate it.

Dr. E. H. Grandin, of New York, indorsed the position taken by Dr. Dickinson. The methods ordinarily advanced for saving the perinæum did more to damage than to save it. It was important to aim at allowing the perineal floor to relax. The head was not going to come out until the muscles yielded. Efforts at supporting the perinæum simply prevented this relaxation. Attempts at stretching excited and irritated the muscles of the parts and put them into a state of tonic contraction. Such interference was altogether irrational. It was better to let the head have time to come down and give the occiput a chance to engage under the symphysis, and then administer chloroform and let the head expand the vulva. Such method was almost sure to save the perinæum from rupture. Of course, in forceps delivery time was always of importance, and, if the head was pulled down before the muscles were relaxed, a tear of the perinæum was sure to result.

Report of a Case of Retro-uterine Tubal Pregnancy, causing Complete Obstruction of the Bowels; Operation; Recovery.—Dr. H. D. V. Pratt, Jr., of Elmira, read a paper with this title. In the latter part of March, 1889, he had attended a patient twenty-two years of age. She was the mother of one child, to which she had given birth without abnormal symptoms. This child she had nursed until it was nearly a year old, and after that period had menstruated regularly, for the last time on the 15th of October, 1888. From this date until the 25th of December there was no menstrual flow, but the patient had suffered from morning sickness and occasional colicky pains in the lower part of the abdomen. The general symptoms had become more and more pronounced, and there had developed a gradually increasing difficulty in defecation, and, at the time of his first seeing the patient, her bowels had not moved for ten days, although strenuous efforts had been made by the use of cathartics, enemata, etc. Physical examination had showed the abdomen enlarged and distended. The lower portion, below the umbilicus, was hard and unyielding, while the upper part was soft and tympanitic. In the lower portion of the abdomen, on the right side, a distinct tumor could be felt reaching nearly to the umbilicus, and on the left side another tumor, or, as it seemed, a portion of the former tumor, could be felt, not reaching as high toward the umbilicus. No line could be distinguished between the two. A large mass bulged into the vagina, completely filling the pelvic cavity and crowding the os uteri high above the symphysis. The speaker then went into elaborate details of the various points which at last led to the diagnosis of extra-uterine pregnancy. The symptoms of obstruction had become more and more marked, the bowels not having moved for thirteen days. The operation was as follows: An incision with a Paquelin cautery was made through the posterior vaginal wall. This incision was commenced from a point an inch below and behind the os uteri, extending backward and downward an inch and a half in the median line. The thickened walls of the vagina were slowly burned through. As the incision was completed, there was a gush of several ounces of amber-colored fluid, and a little hand had dropped through the opening. The incision was then enlarged with the cautery, and two fingers passed. The fœtus was gently turned and a foot brought down, the body and arms being then readily extracted through the opening. No attempt was made to remove the placenta, but the cystic cavity was plugged with cotton and the bleeding checked. The patient was with the utmost difficulty resuscitated from complete collapse. Twenty-four hours after, an attempt was made to remove the plugs of cotton which had been introduced to check hæmorrhage, but, this having resulted in fresh bleeding, the tampons were not removed till eighty hours after the operation. The placenta had come away piecemeal during daily douching. At the point of greatest attachment of the placenta there was found a recto-cysto-vaginal fistula through which fæces and gas had escaped. This had healed spontaneously in about three weeks. With great care and constant attention to detail the case had finally gone on to complete recovery. It had been one of extra retro-uterine tubal pregnancy, bulging into the vagina, immovable, and with the walls of the cyst adherent on all sides. So far as the author could ascertain, it was the first case of the kind which, after the cyst had grown to such a size, had responded successfully to treatment.

The Rational Limitations of Intra-uterine Therapeutics.—Dr. Andrew F. Currier, of New York, read a paper with this title. (To be published.)

Dr. T. A. Emmet, of New York, said that he concurred in much that Dr. Currier had stated in his paper. He never made an application within the uterus without a very clear perception of the responsibility he was taking when going above the internal os. Therefore it followed that he made but few applications within the uterine canal. Below the internal os the conditions were very much the same as that of the vaginal surface. At this point there might be a persistent disease of the mucous membrane from labor or injuries. The question was debatable as to whether above this there existed a true mucous membrane. At any rate, it was not like other mucous membrane, connected as it was with muscular tissue, and constantly changing at the menstrual period. He did not believe that the endometritis extended above the internal os, and had never seen a case in the dead-house in which it had done so. There existed a very close relationship between the surface above the internal os and the peritonæum.

Operative interference in this locality was a dangerous procedure, as it was easy to set up peritonitis. For years he had made no application above the internal os. When the condition could not be traced to a new growth he was always able to find something disturbing the circulation and bringing about hypersecretion. This had led him to stop internal applications. Since abandoning internal treatment his patients got home much sooner. A man who would make applications of the actual cautery, chromic acid, etc., he would lock up, no matter how honest he might be. If he had malignant disease in a woman who had no future, then it was admissible to use cautery to make proximately healthy tissue. If she was going to die we could only make her more comfortable. Dr. Coe's autopsies showed very clearly how intimately the endometrium was associated with the peritonæum through the medium of the tubes. It was wrong to call simple hypertrophy of the mucous membrane of the uterus an inflammatory condition. In a large majority of these cases there was a clear cause for the condition outside of the uterus.

Dr. Currier said, in reply, that he did not go so far as his teacher, Dr. Emmet. He thought that in some cases intra-uterine treatment was useful. He advocated the treatment of certain diseases of the endometrium of the body of the uterus by the sharp or dull curette. As to acute inflammation of the endometrium above the os internum, how was it proposed to account for the extension of gonorrhœa which began in the vagina or os externum and continued to the endometrium through the tubes to the peritoneal cavity? If this was admitted it answered the objection of Dr. Emmet.

Remarks on the Use of the Uterine Curette was the title of a paper read by Dr. Walter B. Chase, of Brooklyn. He divided the indications for curetting as called for into three conditions: (1) Puerperal cases in which was retention of the placenta or membranes, (2) cases in which sepsis existed or was imminent, (3) non-puerperal cases in which there was villous degeneration of the endometrium. The operation should be performed in Sims's position. The uterus should be irrigated before and after the operation. Gentleness and thoroughness were insisted upon.

Dr. Currier had little criticism to offer in reference to the treatment advocated by the reader of the paper. He had already placed himself on record, indorsing such treatment in a paper which he had read. There were two classes of cases in puerperal treatment in which curetting was contra-indicated—one class in which patients were greatly prostrated by excessive hæmorrhage. In such cases it was better to run the risk of sepsis and wait until the patient sufficiently rallied to enable her to endure the disturbance of curetting. The other class included cases in which there was retroflexion of the uterus with fixation. In such, curetting immediately after operation, it was extremely difficult to explore the uterus and find exactly its condition. In these cases it was also better to wait and to run the risk of sepsis until the patient was sufficiently strong to admit of irrigation under anæsthesia with careful and complete exploration, with such other procedures as might be indicated.

Dr. Jewett would like to emphasize the importance of the curette. He thought it was important to precede the use of the curette with the douche and to follow with the same. He advised leaving twenty grains of iodoform in the uterus. In post-partum cases the curette would remove material which the douche would not touch. The presence of odor could not be relied on when the uterus became anteflexed and fluid was locked up in the cavity.

Malignant Disease of the Corporeal Endometrium.—Dr. Coe, of New York, read a paper on this subject. He had treated four cases of this rare affection during the past six months. He said that, considering how much had been written regarding symptoms and diagnosis of malignant disease of the interior of the uterus, it would seem as if we possessed sufficiently explicit directions for recognizing even the most doubtful case. As a matter of fact, nothing in the whole range of pelvic diagnosis was more difficult. It was not enough that the gynæcologist should be able to detect the disease at a stage when it was still possible to entirely remove it. The general practitioner was the one directly responsible for the majority of mournful inoperable cases which were referred to the gynæcologist at a time when they could only be pronounced hopeless. It was the duty of the general practitioner to investigate closely every case in which symptoms were suspicious, following up every point until the question of malignancy could be absolutely excluded. These suspicious symptoms were not severe lancinating pain, because that was a later symptom; not offensive discharges, because these marked necrotic changes of an advanced stage; not cachexia, which was simply a septic manifestation, but hæmorrhage, especially of an irregular type, was a symptom that should awaken sinister suspicions, especially if at the accursed period—the menopause. It was, however, a mistake to assume that patients with malignant disease had from the onset profuse flooding as they did in cases of fibroid. The escape of blood was rather in an occasional show, appearing especially on exertion. Coming after the climacteric, the patients thought that the menses had returned, which before that time they would have considered some irregularity in menstruation. The speaker then went exhaustively into the whole subject of the symptomatology of cancer of the body of the uterus, giving full histories of the cases observed by himself.

The Indications for Operation in Disease of the Uterine Appendages.—Dr. E. H. Grandin, of New York, read a paper with this title. (To be published.)

Acute Dacryocystitis.—Dr. David Webster, of New York, in a paper on this subject, said that, as acute dacryocystitis or abscess of the lacrymal sac often came primarily under the notice of the general practitioner, it was important to be able to make a correct diagnosis. The fact that several cases of the affection lately coming under the speaker's notice had been diagnosticated and treated as facial erysipelas had led him to say a few words on the subject. The differences between it and erysipelas were that in acute dacryocystitis the principal swelling and tenderness were immediately over the lacrymal sac, at the side of the nose, and just below the inner canthus. In facial erysipelas there was no more swelling over the sac than in the rest of the inflamed area. In acute dacryocystitis the inflamed area was always confined to the side of the nose, the upper part of the cheek, eyelids, and conjunctiva. In rare instances the cornea was affected. Facial erysipelas often included in the area of inflammation the forehead, temple, and sometimes the upper lip, while the temperature ranged higher and the physical disturbances were more profound in erysipelas han in dacryocystitis. Questioning would usually elicit the fact that the patient had had watery eye or running over of tears for a long time. It would seem that chronic catarrh of the lacrymal canal predisposed the sac to acute purulent inflammation. The speaker urged early incision, at a point between the caruncle and the inner canthus, where there was only the conjunctiva and the sac-wall to pass through. After the subsidence of the swelling, the canaliculus could be slit and the strictures divided, probes being passed at intervals. Sugar-of-lead washes were to be avoided, as they had a tendency to produce corneal deposits.

Dr. W. F. Mittendorf, of New York, said that he generally succeeded in treating such cases by slitting the canaliculus without dividing the integument. Relief was just as prompt, and no deformity remained. If the process had advanced too far, then, of course, an incision must be made through the integument. He would use a solution of bichloride of mercury afterward. The operation had done good service.

The Prompt Recognition and Treatment of Syphilis of the Brain.—Dr. J. L. Corning, of New York, in a paper read on this subject, said that it was contrary to prevalent opinion that symptoms of early cerebral syphilis were much more uniform than later ones. Chief among the earlier manifestations of cerebral syphilis were persistent violent headaches. These were particularly pronounced at night, though there was the assumption that the recumbent position often brought them on, or added to their intensity at any time. Tender points were often found on the scalp, while ambulatory pains were uncommon in other parts of the body. It must be remembered, however, that head pains in incipient meningitis, cerebral tumor, and uræmia had close resemblance to those due to syphilis. It was a noteworthy fact that cerebral syphilis sometimes occurred with entire absence of secondary or even tangible primary symptoms, and these facts tended to heighten the difficulty of diagnosis. Appreciating this difficulty, the speaker advised in such cases placing the patient for a reasonable time under antisyphilitic treatment. Further symptoms were vertigo, evanescent mental impairment, sensory and motor derangement, and impairment of sight and speech. The derangements of motility usually assumed the form of spasm and paralysis. They were confined to a small number of muscles, and the very irregularity of their manifestations gave them their characteristic complexion. The spasmodic phenomena were comparatively early symptoms, and constituted a frequent precursor of paralysis, which might accompany or appear subsequently to these spasms and be confined to a few muscles, or, upon rare occasions, might invade one side of the body. It must be remembered that the monospasm and monoplegia, together with the proclivity of both to appear and disappear, were features lending a distinctive stamp to the motor disturbances of syphilis. The mental condition was sometimes so like that found in general paralysis of the insane that differentiation was next to impossible unless the occurrence of prodromic symptoms could be established. It might be stated, then, that, in the absence of a distinct history of syphilitic lesion of the brain, it might be suspected when paralytic or convulsive symptoms were irregular in development or were combined with the paralysis of some of the cerebral nerves and evinced besides a tendency to alternate. The latter condition was highly important as indicating the probable existence of more than one central focus of disease.

Dr. Webster presumed that nearly all lesions in syphilis of the brain were included under the heads of optic neuritis and paralysis of the ocular muscles. The ophthalmologist frequently saw cases of both kinds. He had seen a case of paralysis of the sphincter iridis in a syphilitic brain, sent to him in consultation by the reader of the paper, which had one point which was quite rare. There was apparently no other nerve of the eye affected except the twigs of the third nerve, which supplied the sphincter. Accommodation and vision were perfect in both eyes, and there was no disturbance of the muscles of the periphery of the pupils.

The President asked if it was possible that such a condition could occur otherwise than with syphilis as a cause.

Dr. Webster thought it could. He had seen paralysis of the ciliary muscles and sphincter irides where no history of syphilis existed, but in the majority of cases where mydriasis was monocular it usually affected one eye.

The President's Anniversary Address.—In his address the president said that the profession aimed to supply a universal human want, and thereby it secured merited public recognition, and that the medical profession had secured the meed of favor it now received by an earnest effort to meet such universal demand. Still, in many important particulars the medical profession was not what its devoted disciples deemed worthy of its recorded achievements or prospective conquests. In the many discussions regarding the proper place for medicine among the applied sciences, both physicians and laymen yet characterized it as an inexact science. Many reasons existed why that designation was now unjust. If we accepted the definition of science as a knowledge of duty arranged and referred to general rules and principles on which it was founded, we might certainly class medicine among the seven sciences of the ancients. There could be no science based upon more absolute facts than the circulation of the blood, the functions of the nerve-centers, the delicate chemistry of respiration, and the laws which governed nutrition and the growth of tissue. The science of medicine might be incomplete and the principles underlying it might be modified by vital forces, but so also calculations based on mathematical astronomy were often modified and corrected by the personal equation. One of the chief aims should be to secure proper recognition of scientific exactness, which formed to-day the basis for all successful applications of the healing art. Proper determination of this intimate relation between science and the art of medicine required breadth of mind and habits of deduction, only to be secured through an academic training. Absence of such preliminary training on the part of many contributed largely to the moderate estimate of the dignity belonging to this scientific pursuit. The radical defect was that medical colleges in this State had exacted no requirements from beginners in the study of medicine. The regents of the university, recognizing this defect had recently undertaken its remedy by a somewhat meager examination; still it should be their aim to see even this law enforced in every college in the State. If it was granted that both the theory and practice of medicine were based upon scientific principles, then it became necessary to consider the character of medical schools intrusted with authority to confer degrees and licenses to practice. There remained no substantial excuse for the existence of sectarian schools of medicine. The medical school which was worth being intrusted with the destiny of our professional future should be broad enough to admit of everything connected with the science and art of medicine which could be utilized for the prevention and treatment of disease. The so-called regular school of medicine placed no restrictions whatever upon the application or form of remedies to be applied to the treatment of disease, the only test being that experience with regard to effects should be the means employed. There was no animosity on the part of the old school against the new, but it was claimed that all their new methods and schemes, under whatever names they appeared, should be made to conform to true scientific principles. It was not wise to attempt to crush out homœopathy or the eclectic school, even if it were possible by other means than those indicated, lest we accidentally destroyed something really worth preserving. If every school in the land would drop sectarian designation and teach all there was of rational medicine, it would result in great good to suffering humanity and the advancement of true science would be promoted. The accomplishment of this desired unity in medicine could only be secured by a uniform standard of requirements—licenses to practice and the existence of a State board of medical examiners to examine all candidates and grant licenses only to those who should pass the examination, provision being made that the different societies in the State should have due representation on the examining board. There could be no question that there existed medical schools in the country whose standard of requirements was too low for the safety of the public and the welfare of medicine. There was no protection against the men who came from these schools except that from examination, and by insistence that passing of such examination should be made a *sine qua non* for the acquirement of a State license.

It was not desired that such enactment should infringe upon the rights of any one to practice medicine as he or she saw fit, provided he possessed the requisite knowledge. If sectarian schools of medicine were unwilling that their students should be subjected to an impartial, fair, and reasonable examination before a complete and non-sectarian board, they laid themselves open to suspicion of fear of the consequences. This position no school should allow itself to occupy. Then there were those who advocated general free license to practice medicine without State or any other control or supervision. Did such people mean to insinuate that a thorough training in the principles of medicine and the discipline of practice in the hospitals and familiarity with the modern advances in surgery were all useless, and rendered a man less qualified? Why not do away with admission to the bar, and let us all become lawyers when tired of medicine? Any great reforms in medical education must be brought about by the legislative branch of the Government. The proposition that the United States Government should assume charge of the matter was dismissed without serious consideration. Every State would probably be jealous of its own rights in this matter, and a change, even if possible, was undesirable. The speaker then enlarged upon the influence which physicians should endeavor to exert upon the questions of political and social economy. He did not consider the position occupied by the family doctor as by any means an ideal one. His position should be that of adviser to the family in all matters relating to the preservation of health and questions involving sanitary principles. Such position would, however, not be accorded him until the profession as a whole had absolute control of every means which advancing science offered or experience demonstrated as being of service to suffering humanity, and until all sectarianism became merged into one grand conception of the dignity, honor, and integrity which belonged to a scientific pursuit. Though members of the profession were often called upon to do unlawful acts, it was an honor to the profession that such requests so seldom met any response. The speaker hazarded the opinion that it was not possible to find any other thirty thousand men in America among whom so few scandals arose affecting their integrity. He was not sorry that they were not business men, for whenever a physician had business faculty unduly cultivated and exercised, his professional opinions were probably not any too safe or reliable. When it was considered that the ranks of the profession were becoming more and more crowded every year, and that one third of those who commenced the study of medicine abandoned it for some other calling, and that pecuniary rewards to those who remained faithful were extremely small compared with the income from business, it was a question whether services were properly appreciated. But, if the value of a human life was considered, and the confidence and courage which the conscientious physician could inspire in a patient and his friends, such power was a greater compensation than any pecuniary reward.

Spectroscopic Examination of Blood in Certain Eye Diseases.—Dr. Lucien Howe, of Buffalo, read an interesting paper on this subject. He said that his object was to put on record a few observations made of so-called scrofulous and phlyctenular conjunctivitis, which not only illustrated the value of examinations of the blood, but showed the advantages derived from chalybeates in the treatment of these diseases. The speaker then described the methods of preparing and arranging the glasses between which the specimen of blood was placed. The blood diffused itself by capillary attraction throughout the space, forming, by reason of the relative position of the glasses, planes of a triangular prism of blood. Then, the small pocket spectroscope being suitably adjusted and held up to some strong source of light, the plates of glass containing the blood were held in front of it and the spectroscopic phenomena came at once into view. The speaker, after a scientific sketch of the spectroscopic analysis of blood, said with such a simple instrument he had shown that it was possible to determine with mathematical accuracy the exact conditions of the blood upon which depended so many pathological conditions coming under the head of anæmia. The graduated scales with which the apparatus was furnished added to its practical usefulness. In a few minutes it was possible to make out approximately a quantitative analysis of the hæmoglobin and to establish a bedside diagnosis, which was otherwise difficult.

The Treatment of Eczema in Elderly People.—Dr. L. Duncan Bulkley, of New York, read a paper on this subject. (To be published.)

Simple and Effective Method for Treatment of Scabies.—Dr. Samuel Sherwell, of Brooklyn, read a paper on this subject. The author commenced by giving some general hints for the more ready diagnostication of scabies in doubtful cases occurring among persons in the better walks of life, and whose ordinary habits were cleanly. The sites of election of the efflorescence were, in the male, on the skin of the penis, usually on the dorsum, from handling of the organ during micturition; in the female, on the areola and nipple, from the oft-repeated manipulation in the act of dressing, etc. The treatment he advocated was rubbing of the parts with flowers of sulphur and the dusting of the bed-clothes and under-clothes with the same powder. This saved the person affected much inconvenience and distress, both mental and physical. He recommended dusting of this preparation of sulphur in the bed, bunks of logging camps, steerages of ships, etc., as a prophylactic measure. In the course of his paper the speaker quoted largely from his former paper, recently published in this Journal (see page 431, vol. I), on the general therapy of skin diseases.

Successful Removal of a Frontal Encephalocele.—Dr. W. F. Mittendorf, of New York, reported the history of a case in which he had removed a growth of this character from an infant. Some photographs shown exhibited the condition before the operation and depicted the hideous disfigurement, while a picture taken three months after surgical interference showed a brilliant result. The whole case had been one causing considerable anxiety as to the exact pathological conditions and the complications likely to arise from operative interference. In consultation with Dr. Weir, who had concurred, the speaker had decided to interfere, as the growth was rapidly increasing. Subsequent examination had shown the case to be one of encephalocele, the prolapsed cortex being inclosed in the somewhat modified brain membranes, and the whole showing changes incident to the accompanying inflammatory action. The operator thought the result of the case spoke strongly in favor of surgical interference in cases of meningocele and in those cases of encephalocele where a comparatively small pedicle existed, but the operation should in these cases be performed as early as possible, and there was little danger of meningitis if the necessary antiseptic precautions were observed.

(*To be concluded.*)

NEW YORK ACADEMY OF MEDICINE.

SECTION IN THEORY AND PRACTICE OF MEDICINE.

Meeting of January 21, 1890.

Dr. R. C. M. Page in the Chair.

The preliminary proceedings were devoted to the election of officers, with the result of the unanimous election of Dr. Francis Delafield as chairman and Dr. C. E. Quimby as secretary for the ensuing year.

The Physiological Treatment of Obesity.—Dr. Walter Mendelson read a paper with this title. In order to gain an intelligent insight into the nature of obesity it was necessary to have some idea of the laws relating to the processes of nutrition. Up to quite recent times it was the general belief that the oxygen taken into the blood from the inhaled air was the direct factor concerned in the many chemical decompositions going on in the body; and, in consonance with this view, it was held that fat accumulated from more of it being formed than the oxygen could consume, either excess of food-supply or deficiency of oxidation being ascribed as the causes of obesity. Simple and satisfactory as this hypothesis appeared, it was now relegated to the limbo of errors. The belief at present was that all the metabolic phenomena of the economy had their seat in the cells, and that all cells had inherent power of splitting up relatively complex chemical compounds into bodies of simpler composition; and, while we were as yet unaware of the processes by which the cell effected these decompositions, we did know that the oxygen in the tissues was but indirectly concerned in them. Certain external agencies had the power of modifying the chemical powers of the cells. Among those that diminished might be mentioned quinine, alcohol, morphine, low temperature, and deficient food-supply, including insufficiency of oxygen; while excess of food-supply, the changes consequent upon fever, high temperature, and muscular activity increased them. The disintegratibility of the different classes of foods brought to the cells varied widely, and the causes of obesity and its treatment on physiological grounds could only be fully understood when the differences were known and given their full value. Experiments had shown that, of the three great classes of food—the proteids, the carbohydrates, and the hydrocarbons—the one most easily split up was that of the proteids. The carbohydrates were next in order, while the fats, or hydrocarbons, were the most resistant. If proteid food alone was ingested, the soluble albumin carried to the cells was there in part converted into the tissue-albumin of the organ formed of the cells, and in part changed into fat and other products—all of which would tend to be split up into still simpler bodies until the power of the cells became exhausted. If now, in addition to the proteids, fat was ingested, the decomposition of the proteids would go on as before, but the food fat, being more readily oxidizable than the tissue fat formed from the proteids, would shield the tissue fat from destruction, and at the same time preserve the tissue-albumin from destruction as well. Thus, indirectly and in a double way, the food fat led to a storing up of fat. By affording a more easily oxidizable substance for the liberation of energy than tissue fat, and by preserving the tissue-albumin from destruction, there resulted greater chemical activity of the cells and a more active elaboration of the food-albumin. The result of this was both increased growth of the cells and increased manufacture and storage of fat made from the albumin brought to them. It had been determined that the following quantities of the food classes were equivalents and isodynamic, and that, in their decomposition into carbonic acid and water, each yielded an equal quantity of energy, measured as heat: Fat (100 grammes), albumin (211 grammes), starch (232 grammes), cane sugar (234 grammes), and glucose (256 grammes).

From this it was apparent that an accumulation of fat would most readily occur when the diet contained an overplus of fat, because, while least in quantity, fat had the highest equivalent; next, when it contained an overplus of albumin, and lastly, of carbohydrates. After reviewing the chief factors concerned in the manufacture and deposition of fat in the body, Dr. Mendelson took up the methods to be adopted for preventing such accumulations. The aim was to make the production not exceed the consumption, and, where a surplus existed, consumption must for a time exceed production. In the great majority of cases ingestion of too great a quantity, or of an improper quality, of food, often combined with too little exercise, were the causes of obesity. It remained, therefore, to suitably regulate the diet and exercise. It should be borne in mind that the change we wished to bring about, to be beneficial, must be gradual; that the cells must be educated by degrees to the new duties we wished them to perform; that anything approaching starvation, like the Banting cure, was to be condemned. The diet should be principally albuminous and relatively little non-nitrogenous food. But we must always keep in mind that as the fat of the body became by this process gradually reduced, the diet must undergo a corresponding change, more and more of the non-nitrogenous foods being allowed as the body grew relatively richer in albumin and poorer in fat. Unless this was done a point would be reached where not only the fat of the body but the albumin as well would be consumed, and the patient, after feeding thus on his own muscular and glandular tissues, would begin to complain of weakness and lassitude. This, of course, was to be avoided by carefully regulating the diet; the patient must never feel worse, but always better under treatment. Dr. Mendelson had prepared a diet list which was to serve the patient as a general guide. No hard and fast rules could be laid down. Above all, one must never yield to the wishes of the patient to grow thin quickly. All reforms to be lasting and beneficial must be slow in their action; the growth must be from within, not alone an impress from without.

Dr. S. Baruch said that if ever medicine arrived at such perfection as to merit the appellation of an exact science, it would be by the agency and influence of such papers as that of Dr. Mendelson. At best, however, physiology and radical deduction from empirical data must form the basis of therapeutical endeavor in all cases. He would like to touch upon one method of reducing fat which had not been alluded to, and which was not sufficiently regarded by the profession. Voit had demonstrated that the consumption of non-nitrogenous material was chiefly through the muscles, and that exercise was valuable as a means of reducing fat, and therefore whatever tended to increase muscular activity would aid tissue metamorphosis. Cold produced tonic contractions and retrostasis, driving the blood from the surface to the muscular layers beneath, and this was a physiological method of producing functional activity in the muscles. Besides this localized effect, the temperature was elevated by the ensuing reaction, and this secondary effect resulted in increased tissue metamorphosis. It was necessary to use judgment in the methods of employing cold. The vapor bath was a desirable adjunct. It had been recently demonstrated that the elevation of temperature which resulted during the proper administration of the vapor bath produced a very pronounced acceleration of the tissue changes, and that the weight of the body was, by actual experiment, reduced during the bath from one to five pounds at each sitting, though this was afterward compensated for, and, so far as the patient was concerned, really went for nothing at all. The most perfect method was the vapor bath followed by the cold douche; this would give positive and permanent results. He would like to refer to a habit prevalent in this city. It was a fact that ladies, whose vanity led them to fear that they were becoming obese, would resort to the luxurious Turkish bath. It would there be demonstrated to them by the attendants that there was a decrease in their weight following the baths. At last they would begin to realize that this was not real or lasting. The bad habit of luxurious indulgence would, however, have become established. He had found that there was indeed some foundation for the recent statement made in the English press that the ladies of New York city would lounge for hours at a Turkish bath, sipping wine and so forth. This habit would readily be set aside if it were made clear that this form of bath was ineffective for the reduction of fat.

Dr. C. E. Lockwood thought that before any attempt was made to reduce the fat in a case of obesity it was most important to have due regard to the physiological and pathological idiosyncrasies of the patient, and that no measures should be adopted calculated in any way to lower the general vitality.

The Chairman said he coincided with the opinion that the greatest caution should be used in formulating any method by which patients were to have their fat reduced, and that due regard should in all cases be given to the general condition and idiosyncrasies. He had visited Carlsbad and similar resorts in Germany and had seen several very unfortunate results accrue from patients making too much haste to get thin. Organic diseases had been induced which had caused death. Of course, Carlsbad was a very good place if one had as an object the reduction of obesity, because there hot-water bathing, cathartics, and exercise were made use of with a regularity and regard to system which were never followed out at home.

Dr. Mendelson remarked that he was sorry that the question of heart disease in relation to obesity had not come up for discussion. He had not dwelt upon hydrotherapy, because he thought that could be regarded simply as a means toward increasing the activity of the cells.

The Present Epidemic of Influenza.—Paper read by Dr. Louise Fiske Bryson. (See page 120, New York Medical Journal, February 1st.)

Dr. C. L. Dana said the journals had told us that this disease began in St. Petersburg about the middle of November. It had arrived here about the middle of December, giving about one month in difference of time between the dates of the outbreak. He thought the general history of the epidemic pointed to the fact that it was due to an infectious germ, if we could give any reason at all for it. It seemed to him that it must be the result of a bacillus or microbe. He thought it would be impossible for a microbe to travel from St. Petersburg to New York in a month. That would be at the rate of about three hundred miles a day. Therefore the inference was that the actual cause of the epidemic existed here and had not been carried by persons or borne here by the winds like the cholera germ. Possibly there might be something in meteorological, telluric, and magnetic influences, but speculations in this direction had not so far been very fruitful. He believed certain bacteriologists had found a microbe constant to all the secretions, but had not been able to reproduce it. The disease seemed to occur in three forms—(1) the nervous, (2) the catarrhal, and (3) the gastric form. Though the gastric form had been seen here, our experience had been principally with the catarrhal form. The nervous variety he did not think had been noticed here very much. He had seen one or two cases presenting classical symptoms. The patients had become suddenly prostrated by weakness and had remained for three or four days so feeble that they were unable to walk. There was no chill or fever and no catarrh or vomiting. In one case facial paralysis had occurred the second day of the grip, and the writer of the paper had seen a patient of his, about a year old, that was attacked with symptoms of anterior poliomyelitis. This child had some of the symptoms of grip, and did not have fully developed symptoms of poliomyelitis; but he believed these were directly the result of epidemic influences. He had observed a good many cases of facial neuralgia arising, he thought, from the same cause; some of them were complicated with inflammatory symptoms referred to the antrum of Highmore. The most peculiar of the nervous manifestations was the utter prostration and mental depression, lasting not only for days, but in some instances for weeks. Patients felt that life was not worth living. This condition was probably due to the action of the poison upon the heart. Many of these patients seemed to be relieved when given cardiac stimulants.

Dr. W. P. Northrup, after giving a detailed account of the behavior of the epidemic at the various public asylums with which he was connected, said that, as to treatment, he would like to mention that during this epidemic he had not given one grain of antipyrine. The fact was, he had had a very distressing experience with this drug in the case of a lady to whom he had given fifteen grains. She had, with great magnanimity, allowed him to give her five grains more that he might watch the effect. The result was a very troublesome and painful urticaria and the most distressing dyspnœa he had ever seen. She had really taken fifteen grains, had been found on the floor, and by the time he got there she was pulseless. He should certainly never give any more antipyrine.

Dr. Pooley said that, as Dr. Page had called on him, he wanted to say something as to the way in which the grip affected the eye or the ear. He had been as interested as a man could be in studying his own eye symptoms; these were quite pronounced, and when he had attended a recent meeting of the Ophthalmological Society he found that such symptoms had been observed by many other gentlemen, and especially by one doctor, who said that in a very large majority of cases there was a sensation of pain in the eye, pain upon movement of the eye, and deep-seated pain in the orbits. To these the speaker might add, from his own case, a very decided asthenopia, exaggerated when he attempted to use his eyes. These seemed to have been the prominent symptoms, but it did not seem to be recorded that any permanent damage had been done. That more would be heard about the asthenopia he thought was certain. There had also been noticed considerable paresis from weakening of the accommodation. In his own practice, since the epidemic began, there had been quite a marked number of cases of inflammation of the middle ear, and nearly all of these seemed to be attributable to the prevailing epidemic.

Dr. O. D. Pomeroy had noticed that there had been a larger number of cases than usual in which the ear was affected. In both the eye and ear the symptoms seemed to have developed a little while after the disease had run its course. Among the routine cases had been several of catarrhal conjunctivitis which had resulted in well-marked episcleritis. One case was quite striking; there was complete ecchymosis of the conjunctivæ of both eyes looking exactly like the ecchymosis dependent upon whooping-cough. This condition had no doubt resulted from violent coughing. The ecchymosis was so great that the cornea stood out from the rest of the eyeball with startling distinctness. He was quite surprised to notice how many new patients suddenly appeared at the clinic. These were cases, most of them, of purulent otitis of the acute variety. Where perforation of the drum membrane had taken place this had occurred spontaneously. All these cases had been violent enough to make him think of a scarlatinous causation.

Dr. F. Delafield said that everybody had been struck, of course, by the great frequency with which both bronchitis and pneumonia had occurred, and he supposed they must have noticed the same things that he had. As regarded bronchitis, there were two things which had attracted his attention. One thing was the very satisfactory way in which apparently very bad cases of general bronchitis had got well. Cases with pronounced classical symptoms, with coarse and subcrepitant râles over the whole of both lungs, profuse expectoration of mucus with a good deal of blood mixed with it, and very marked difficulty of breathing, considerable rise of temperature, and severe general bronchitis, which under ordinary circumstances would have run a protracted course, he had been surprised to see get better within a moderate length of time. Many people with a general bronchitis, so far as the large tubes were concerned, had only a localized bronchitis so far as the small tubes were concerned, and that without any consolidation of the lung. These patients, although the cases lasted rather longer, all did well. As regarded the pneumonia, every one must have been struck with the fact that all the patients had a good deal of general bronchitis with it. They expectorated a good deal of mucus, both alone and with pus and blood. These cases of pneumonia showed considerable difference among them. In the first place, there were very moderate cases—patients who, with their general bronchitis, did not have very high fever and were not very sick; with very little dullness and no bronchial breathing, perhaps some subcrepitant râles, which, however, cleared up in two days. Then there were others who seemed to be very sick. These would present well-marked physical signs of consolidation of one lobe. Here would be found bronchial breathing, crepitant and subcrepitant râles; but these people would get well in two weeks without any trouble. Then there were the cases which did not behave so well. There was general bronchitis and marked consolidation; these would go on day by day, the temperature being sometimes very high, sometimes low, and at other times continuous at about 102°. This would go on from ten to twenty or thirty days, without the lungs clearing up. Still, with even some of these patients the lungs had at last cleared up, the temperature falling and the patients getting all right. The others were the very bad cases. Most of these patients who had died had given evidence of a great deal of bronchitis, and a great deal of accumulation of mucus in the bronchial tubes. There had been accumulation of blood in the veins and very poor heart action. That was the way patients died in most of the fatal cases he had seen.

Dr. Wood thought that the use of antipyrine was a question which ought to be discussed. He believed the drug was quite capable of complicating the disease in its later stage. Those who had employed it must have recognized the tendency in patients to a profuse cold perspiration after its use. This, with possibly a subnormal temperature, subjected a patient to special risks. He should like to be understood as being upon that side of the profession which had put up its hands against the use of the drug, except with the utmost caution.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of January 13, 1890.

Dr. Robert Abbe in the Chair.

Election of Officers.—The preliminary business of the meeting consisted in the nomination and election of officers. By unanimous vote, Dr. Robert Abbe was re-elected chairman and Dr. C. A. Powers secretary for the ensuing year.

Excision of the Elbow.—Dr. W. T. Bull showed a patient upon whom he had performed excision of the elbow for ankylosis resulting from a T-shaped fracture of the lower end of the humerus which, in uniting, had left the arm perfectly straight. This had prevented the patient carrying on any occupation to which he was accustomed. The speaker had proposed excision, promising only improvement in the position of the arm, as he had by no means felt confident that the amount of motion would result which had really been secured. The operation was done on October 18, 1889. The bony surfaces were so large and irregular that it was not possible to preserve the periosteum. About an inch of the olecranon process and the head of the radius, together with both condyles of the humerus, were removed. The wound was treated with bichloride dressings and primary union had taken place, healing being complete at the end of three weeks. At the expiration of that time the arm was put up in plaster of Paris for a week, and then motion was commenced which had been since continued. The patient was now able to flex the forearm beyond a right angle. At present he could not accomplish any movements of pronation from want of muscular power, but it was intended to commence electrical treatment, and when it was noted how good the result had been so far, in so short a time, it was fair to assume that a still greater improvement would take place with the return of muscular tone.

A Pin in the Right Bronchus; Tracheotomy.—Dr. Bull then showed a pin, two inches and three quarters in length, which he had removed from the right bronchus of a child. At the time the pin was swallowed the child had got black in the face, but the spasm had passed off. Pain was complained of for several days, but this was only experienced when the child was raised from the recumbent to a sitting position. Purulent expectoration was noticed and the temperature had risen to 102°, with loss of appetite and some vomiting. The speaker had performed tracheotomy and had luckily found the point of the pin resting at the angle of the incision, while the head of it lay in the right bronchus. The pin had been in the trachea five days.

Angeio-sarcoma of the Shoulder Joint.—Dr. C. A. Powers presented a man, twenty-two years of age, who ten weeks ago had fallen and injured his left shoulder. The patient had immediately sought advice and had been treated for contusion. Two weeks ago the speaker had examined the arm and had diagnosticated fracture of the surgical neck of the humerus. Plaster-of-Paris dressing was applied which had caused such swelling and pain that it had to be removed. The swelling, however, continued to increase and Dr. Weir made an incision on the outer surface of the shoulder. A cavity was found which contained fresh and clotted blood. The diagnosis as to fracture was verified. Dr. Weir had considered the case one of angeio-sarcoma of the joint. The non-recognition of the fracture was perhaps contributory to the occurrence of the sarcoma, while the constant motion of the joint might also have hastened its development.

Dr. Weir said that he had seen several cases of blood tumor, some of them benign, others malign. Perhaps this neoplasm of the bone had existed for some time prior to the injury which caused its rapid development. It was somewhat remarkable that an angeiomatous tumor should have developed with such rapidity and that the man, with such a fracture, could go about without any special dressing to the injury and without experiencing any particular pain. These points had led the speaker to think that the condition existed prior to the injury, the latter only accelerating the malignant growth. He had been obliged to urge a conclusion, warranted by experience, against the pathologist's first report on the nature of the neoplasm. The microscope had revealed nothing at first, but further investigation had verified the speaker's diagnosis.

Dr. Jacobi agreed in the opinion that there had existed a sarcoma prior to the injury, for angeio-sarcomata did not develop rapidly.

The Chairman coincided with the view that the fracture had been preceded by the malignant growth.

A Rare Specimen of Polycystic Degeneration of the Kidney.—Dr. Weir exhibited a specimen of polycystic tumor of the left kidney which he characterized as both rare and beautiful, from a scientific point of view. This kidney he had removed by nephrectomy, a few days before, from a woman of thirty-three years of age. The diseased organ had begun to give trouble some eight months ago, and the pressure symptoms had at length become pronounced and were affecting the abdomen and the leg on the side corresponding to the disease. Palpation revealed an elongated mass, upon which nodules could be distinctly made out. By percussion the upper border of the growth could not be distinguished from the splenic dullness, and it had been a question as to whether the tumor was one of the spleen, renal tumor, or one of retro-peritoneal origin. The question of splenic origin was excluded by inflating the large intestine with air, which, in passing up the colon, had distended the bowel over the tumor. The patient's condition was good, excepting the pain and discomfort from increase in the size of the growth. There was a diminution of one half in the amount of urea excreted and a slight trace of albumin, but no casts. When the incision was made the tumor projected immediately, and was enucleated without difficulty. A posterior opening was made for drainage. The operator had felt considerably alarmed after getting at the tumor and recognizing its character, because he knew that this condition of polycystic degeneration was, as a rule, not confined to one kidney. The patient had so far, however, done remarkably well. The diseased kidney measured over ten inches in length, five inches in width, and four inches in depth, and its surface presented a mass of parti-colored cysts, varying in size from that of a pea to that of a small orange.

Hardening Plaster-of-Paris Casts.—Dr. Phelps explained the method by which he rendered plaster casts, which were so liable to break, hard and capable of sustaining the roughest kind of usage. He did this by covering the casts with a coating of plumbago and a precipitate of copper.

Operative Treatment of Hernia, Syphilitic Lymphadenitis, and Hydrocele of the Cord.—This was the title of a paper by Dr. James E. Kelly. He reported twenty-eight cases of hernia in which he had operated during a period of ten months. The results were observed in from three to nine months after the operation. The ages of the patients operated upon ranged from five to seventy years. No deaths had occurred, and in two instances only was there slight peritonitis. When the patients were last examined, with but two exceptions the mechanical results were most satisfactory. Of these two cases, one was operated on according to Wood's method, the other by a modification of McBurney's method. The speaker had used several methods in this series of operations. He objected to the transfixion of the sac, as was done in Macewen's operation, not being sure of the "subtle and sly" omentum. McBurney's method had been given a loyal trial. The speaker had modified the operation by making an artificial spermatic canal in the outer margin of the wound. This divided the external wound into two parts—the essential and the scrotal. The tissues were then sutured to the pubes, adding another obstacle to the recurrence of the protrusion. He regarded this making of a new spermatic canal as the most important point in his operation. He also described the methods of dealing with the various difficulties in its construction. It was recommended that all who were afflicted with weak inguinal regions should assume the "squatting" position during defecation. In this posture the thigh constituted a most effective truss at the time of expulsive efforts. He described the dissection of the structures removed in a case of infantile hernia, occurring in a man aged fifty-nine, which helped to elucidate the surgical accident known as *réduction en bissac*, and also one which explained at least one form of what the truss-makers termed a short cord, a grave obstacle to mechanical treatment. The speaker disclaimed any partiality for a particular method, and deprecated indiscriminate operation. He regarded the radical treatment called for in strangulated and irreducible hernia, especially if liable to inflammation, or if causing pain and inconvenience to the patient, and in those cases in which the hernia could not be controlled by mechanical appliances. He also described some cases of enucleation of lymphatic nodes or glands, and of extirpation of hydrocele of the cord, which had yielded very satisfactory results.

The Chairman said that it was a question whether the results which had been so far obtained would warrant the adoption of any of the various methods hitherto advocated.

Dr. Weir thought that no method was entitled to any special consideration until two years had elapsed from the date of the operation. Every method which had been put forward had been successful for periods of from three to eighteen months; but, as time passed, the best percentages which could be shown ranged from 60 to 80, the higher percentages being given by the operators themselves. Macewen had reported fifty or sixty cases of cure, but the speaker had personally observed that he only operated on the selected cases, and that this operator never undertook to operate on a double hernia, but invariably chose comparatively small and recent inguinal and femoral herniæ. So far the operation only offered, at best, prospects of partial success, while some of the patients were certain to be killed by it. He had, however, learned something from the paper, and had been much impressed by several of the points made. He thought Dr. McBurney's method the simplest and safest of all, but did not believe it was the most successful. He had used and approved of the method of Macewen, but, on the whole, he could not undertake these hernia operations so enthusiastically as he had two or three years before.

Dr. W. T. Bull said that he had lately begun to look about for patients who had undergone this operation, and to try and discover what the results had been. As a consequence, his own enthusiasm had begun to wane. At the end of two years a goodly proportion had remained cured, at the end of three years fewer, while at the end of four or five years it was hard to find patients in whom relapse had not taken place. He made this statement without any reference to the method employed. He thought that no valuable conclusions could ever be arrived at by reporting early results. Nevertheless, there should be no abatement in the endeavor on the part of surgeons to perfect the methods of the operation, because there would always exist a class of cases in which it was indicated or imperative, such as strangulated cases and those in which it was impossible for the patient to wear a truss. He had had no experience with the open method which Dr. McBurney had brought to such perfection. It was an interesting fact that, at the Hospital for the Ruptured and Crippled, patients were now turning up at the rate of about two a week who had been treated for hernia by radical operation and in whom relapse had occurred. He was endeavoring to get at the accurate histories of these cases so as to make a comparative estimate of the merits of the various methods which had been employed. It was safe to assert that hitherto relapses had taken place after every form of operation for radical cure. The speaker then went into the details of various methods.

A Rare Case of Deep Extra-peritoneal Urinary Extravasation down the Thigh.—This was the subject of a paper by Dr. Eugene Fuller. The fatality in cases of deep urinary extravasation, was far greater than where the infiltration took place anteriorly to the deep layer of the triangular ligament. Death frequently ensued in cases of posterior infiltrations before the inflammatory changes occurred which enabled one to mark the exact course taken by the offending fluid. After a study of the literature on the subject, the case to be narrated was thought to be an uncommon one.

The patient, a man aged twenty-six, had passed his urine with effort for some years following a gonorrhœa; he had never, owing to timidity, allowed instruments to be used, and finally, without exciting cause, had found himself with complete retention. A medical friend was called in and various attempts were made to enter the bladder, but without avail. Morphine, hypodermically, was administered, and some overflow had occurred. Some hours later, when Dr. Keyes had seen the patient, only moderate distension of the bladder could be detected, but much blood mingled with urine escaped from the rectum. Owing to numerous false passages, it was found impossible to enter the bladder with any instrument. External urethrotomy without a guide was performed, and a large perineal drainage-tube inserted. Careful distension of the bladder showed no vesical rupture, and no blood in the fluid. After the operation the bladder acted well, and no induration or trouble could be detected in the rectum, still the patient had a marked evening rise of temperature, great pallor, despondency, failure of strength, chills, and other symptoms indicative of suppuration. The right thigh had become flexed on the pelvis at an angle of 45° to the plane of the bed. The least movement of the limb caused great pain. After the lapse of some time a certain amount of induration could be detected in the right iliac fossa, and measurements of the upper parts of both thighs showed the right one to be very much the larger in circumference. With the patient under ether, an incision was made into the indurated area in the right iliac fossa. This was followed by the escape of pus and discolored sloughs. The exploring finger found the true pelvic fascia covering the iliacus muscle unimpaired. The peritonæum, with its fascia propria of the French anatomists, was found to be crowded away and separated from its loose connection with the pelvic fascia. Pushing the finger still farther, the external iliac vessels could be felt in their sheath intact, but a V-shaped space of considerable size could be detected. The base of this space was the iliac vessels in their sheath, its upper side being Poupart's ligament and its lower side the ramus of the pubes. It was very evident that through this space the pus had found its way into the thigh. A silver probe was introduced and passed into the thigh to the outer side of the vessels, but it soon changed its course and passed under and to the inner side of these vessels, where its end could be felt from the outside through the adductor group of muscles. An incision was made down upon the point of the probe, and by this means perfect drainage was obtained. The patient had made a gradual but perfect recovery. In order to fully clear up certain points regarding the anatomy of the pelvis, the speaker had made several dissections. After injecting the bladder to render everything tense, the left ramus of the pubes was sawed through and the pelvis split open so as to gain more space for observation. The intestines were then retracted and the peritonæum carefully dissected from the bladder and the right pelvic region. The fascia propria of the French anatomists, which everywhere was quite adherent to the peritonæum, was now exposed; in places this fascia was found to be quite dense. It had been called by some anatomists the ilio-vesical fascia. An extension of this fascia formed, for the most part, the thick sheath of the external iliac vessels as they pass under Poupart's ligament and out of the pelvis. Another extension encircled the obturator vessels in their exit through the foramen, and still another invested the spermatic cord and vessels in their exit. It also enveloped closely the bladder and formed the dense capsule of the prostate. This fascia propria was but loosely connected with the true deep pelvic fascia, thus allowing a comparatively easy pathway for infiltration or burrowing fluids. The dissections showed how readily a fluid, when once between these two layers of fascia, could extend its course out of the pelvis and into the thigh. The connection between the capsule of the prostate and the wall of the rectum was very slight. If the capsule of the prostate was perforated, as had evidently been the fact in the case reported, a certain amount of urine, on reaching this point, would with little resistance insinuate itself in the directions before mentioned. The speaker had been able to find reports of cases in which extravasation had taken place through the obturator foramen, but was unable to find any where the urine had found its way along the sheath of the external iliac vessels, as in his case.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN ANATOMY AND PHYSIOLOGY.

Meeting of January 3, 1890.

The President, Dr. Purser, in the Chair.

The American Periglyph.—Dr. Brooks, in the absence of Professor Cunningham, exhibited and explained the working of an American periglyph—an instrument by which geometrically correct projections might be drawn suitable for craniometrical work. Professor Cunningham had been recommended the periglyph by Professor Billings, on finding that he could not employ photography advantageously in working at casts of skulls.

Single Unilateral Sigmoid Kidney.—Professor Birmingham exhibited, as an anatomical curiosity, a single unilateral sigmoid kidney found in a subject undergoing dissection. The condition was extremely rare. Single kidney might result from (*a*) congenital absence of one kidney; (*b*) from atrophy of one organ; or (*c*) from fusion of two kidneys. If the fusion were complete, disc-shaped kidney resulted; horseshoe kidney represented the smallest degree of fusion, and intermediate between the two others stood sigmoid kidney. In the specimen exhibited the left organ was nearly normal in position; attached to its lower and inner part was the right kidney, which extended down on the left side of the aorta almost to its bifurcation.

Two Specimens of Meckel's Diverticulum. — Professor Birmingham showed two cases of Meckel's diverticulum, one of which was obtained at the post-mortem examination of a man whose intestine had been resected immediately above the diverticulum. In this case the diverticulum was hollow for about an inch and three quarters; beyond this it was a fibrous cord attached to the back of the umbilicus. During the operation it was recognized, and it added somewhat to the difficulties of the case.

The Topographical Anatomy of the Abdomen. — Dr. Brooks exhibited plaster models illustrating the topographical anatomy of the abdomen. He was led to the investigation of this subject by the contradictory accounts of the contents of the different regions of the abdomen found in our text-books. He explained the mode of producing the cast from frozen sections, forming a series of eight vertical pieces.

An Abnormal Right Subclavian Artery.—Dr. W. Henry Thompson read a note on a case of abnormal right subclavian artery, which he exhibited. The vessel arose from the arch of the aorta near the junction between its second and third stages, and toward the posterior aspect of the vessel. It was fourth in order of the great stems—the two carotids and the left subclavian arising nearer to the heart than it. The artery then passed up behind the trachea and œsophagus to the right side of the neck, where it came to occupy the usual position. The right inferior laryngeal nerve was not recurrent. The thoracic duct did not cross over to the left side. It passed up to the right of the œsophagus and entered the junction of the right internal jugular and subclavian. The lymphatic duct was found on the left side. The right sympathetic formed an extremely well-marked annulus around the subclavian. The vestiges of the left superior vena cava were well marked—a pervious communication reaching from the superior intercostal vein of the left side to the vestigial fold and on to the oblique vein. The accepted explanation of the anomaly was that the fourth right fœtal arch suffered early obliteration on the cardiac side of the origin of the subclavian. Thus to reach the vessel the blood had to pass along the fourth left arch (aorta) to the junction of the two dorsal aortic roots and thence " up stream," behind the œsophagus and trachea to the subclavian. Thus the first part of the abnormal vessel was really due to a persistence of the right dorsal aortic root.

A New Method of exhibiting the Topographical Anatomy of the Brain.—Professor Frazer exhibited an extensive series of photographs of heads, illustrating the topography of the brain in the adult male and female, and also in the child. Measured tapes were laid on the heads, running in certain definite directions; these tapes were reproduced in the photographs, and by means of them the correct distances between various points on the photographs were arrived at. The pictures were composite, showing besides the tapes and the surface of the head the deeper parts of the same head at two different levels overlying one another—for instance (1) the surface with tapes; (2) the dura mater; (3) the surface of the brain and the convolutions, and so on, until every part as far as the corpus callosum was shown with its exact relations to the surface. According to this method, the topography in the adult and young head showed a wonderful correspondence; there was not the sixteenth of an inch difference in any of the parts spread over the entire area of the brain. So that in any case any part of the brain could be located on the surface with perfect accuracy by means of a pair of compasses and the tapes guided by the photographs. Though the method might seem elaborate, it had been tried twice lately by an operating surgeon, who had opened the lateral vetricles with the assistance of the photographs. The production of the present results had occupied the exhibitor for seven years.

Professor Birmingham asked whether Professor Frazer meant to convey that the proportions between the different divisions of the brain were the same in the adult as the child, or that the relations of the different parts of the brain to the surface were the same in youth as in adult life.

Professor FRAZER said that he meant to convey that *both* the proportions of the divisions to one another, and the relations of the different parts to the surface, were the same in a child as in an adult.

Dr. PATERSON asked upon what principles the tapes were laid down on the head. There were few regions of the brain open to surgical interference, and if the simple methods of Hare, Reid, and Horsley afforded a means of arriving at these regions, he failed to see the advantage of Professor Frazer's elaborate illustrations.

Professor FRAZER, in reply, said that the method of applying the tapes was the only one by which an oval head could be mathematically divided. His experience had not been extensive enough to say whether those lines laid down would hold good through all kinds of heads, especially deformed heads; but, so far as he had investigated, the lines held exactly to a hair's breadth through the whole outer and inner surface. The series of photographs had been made from nature, once for all, and they showed the relations of the brain to the skin; it was for the practical surgeon to get assistance from them if he could.

The Nerve Supply of the Extensor Brevis Digitorum Manus in Man, and the Valvulæ Conniventes in Man.—Dr. BROOKS read two short papers. In the first he pointed out the nerve supply of the occasional muscle in man—the extensor brevis digitorum of the hand. He could find no record of the nerve supply reported by any other anatomist, and he showed a specimen of the muscle lately found in the dissecting room of Trinity College, with a well-marked nerve from the posterior interosseus of the forearm; he had previously observed a similar condition.

In the other paper it was pointed out that all our English text-books of anatomy, and most continental works, except Henle's, described the valvulæ conniventes in man as crescentic folds of mucous membrane of the intestine, which extended, as a rule, no more than two thirds round the intestine. Henle said that they occasionally formed complete rings. Dr. Brooks had found, at least in the upper part of the jejunum—to which his observations had been confined so far—that the valvulæ conniventes frequently formed complete rings, and sometimes spirals, extending more than once round the intestine. He exhibited several specimens in confirmation of this statement.

Professor BIRMINGHAM asked if Dr. Brooks thought, so far as his investigation went, that the majority of the valvulæ conniventes formed complete rings.

Dr. BROOKS said that he had only examined the upper part of the jejunum, and, so far as he had gone, he thought the annules and spirals taken together were in the majority.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN NEUROLOGY.

Meeting of January 10, 1890.

Dr. FREDERICK PETERSON in the Chair.

Election of Officers.—The preliminary business of this meeting was devoted to the nomination and election of officers. By unanimous vote, Dr. Landon C. Gray was re-elected chairman, and Dr. Frederick Peterson secretary.

On motion by Dr. M. ALLEN STARR, it was resolved that the next meeting of the Section should not be held until April; and October and January were settled upon as the months in which ensuing meetings should take place.

Exhibition of a Case of Friedreich's Ataxia, with a Report in Abstract of Six Cases in Three Families.—This case was presented and the report read by Dr. C. L. DANA. Previous to February, 1888, 143 cases of this disease had been reported. Subsequently Dr. Dana had collected 24 more, making the total number of cases on record 167; of these, America had furnished the majority. The first case reported was that of a boy, aged twelve years, who had suffered from spinal trouble, dying, however, of pneumonia. The child's health up to the seventh year had been perfect. At that age he had had scarlet fever, from which he had recovered without sequelæ. He was the youngest of four children, all of whom were in good health. In the spring of 1888 he had whooping-cough. In the following winter he was first noticed to have a stumbling and awkward gait, especially in the dark. No other symptom had been observed. He was seen for the first time by the speaker in October, 1889. The patient was then a well-developed boy, but with marked ataxic and stumbling gait, and an apparent limp of the right leg. Careful examination had shown no other symptom, the only remaining trouble at present being the ataxic gait.

The second case was that of a young man, twenty-one years of age. With the exception of the father dying of alcoholism, the family history was negative. The patient had gone through all of the diseases peculiar to childhood without any trouble, and had been considered a healthy boy. He had no history of syphilis, gonorrhœa, or alcohol habit. Five years ago the patient, while at work, had had a fall, striking on the back of his head; he was not rendered unconscious, and was able to continue his work. Soon after this accident he had begun to have dull and heavy sensations, and was always tired and sleepy. It was with difficulty he could be aroused. Peculiar pains in the ankles, shooting up the legs, had now come on; also severe headache, with pains in the back and thighs. For about two years a feeling of constriction over the stomach was present, with a sense of weight, oppression, and nausea, with much dizziness. When these symptoms were most marked his gait was noticed to be peculiar, resembling that of an intoxicated person. The sensation of the feet touching the ground or floor was normal, but the ankles seemed unsteady. The speech was impaired. The face had assumed a flushed appearance, which had persisted. There were polyuria and constipation. As first seen by the speaker in May, 1889, the patient was well nourished and intelligent, his height being four feet ten inches and weight one hundred and thirty pounds. Physical examination negative. The urine was of low specific gravity, 1·005 to 1·010, and 180 to 190 ounces were passed daily. No albumin or sugar was found. The same condition of gait and speech with the flushed face was present. Muscular power was fairly good in the arms and legs. He had no choreic or tremulous movements except that of the head, which oscillated to and fro when he was standing, and no spasms or contractures. There was a slight tendency to flat-foot, and a small degree of anterior curvature of the lumbar spine. The skin reflexes were diminished, those of the olecranon and patella being normal. There was no clonus. When first examined there was slight cutaneous anæsthesia of the lower limbs, but this had not persisted, and instead he had seemed to have some hyperæsthesia. The ataxia was essentially motor. In walking, the patient would roll from side to side, and had fallen at different times and sustained fractures of the fibula, radius, and ulna. He could, however, stand fairly well with closed eyes. The degree of ataxia of the head and trunk was nicely shown by means of diagrams of ataxiagrammatic tracings, taken with the patient both sitting and standing with closed eyes. The position of the limbs and differences in weights were fully appreciated. At present, the speaker said, the patient's general condition had improved, his polyuria had almost disappeared, but his gait had grown worse, and he often complained of headache, backache, and vertigo. He had no girdle pains, and no symptoms of bladder or rectal involvement. The cerebellar ataxia coming on after a blow on the head was suggestive of tumor. The presence of the knee-jerks, the polyuria, and the cutaneous vaso-motor paresis were all somewhat peculiar though not unique symptoms. Fragility of the bones was a curious and interesting symptom, and it added to the link between Friedreich's ataxia and the locomotor ataxia of adults. The patient was then exhibited to the Section. The remaining four cases had all occurred in one family of eight children. With the exception of phthisis and alcoholism, the family history was negative. The three girls became ataxic at the ages of nine, eleven, and fourteen years, and the boy at sixteen. In the youngest girl the ataxia was just developing. With the eyes closed, there was an unsteady condition of legs and arms, patellar reflex being diminished. In the other three cases the progress from the beginning of the ataxia had been pretty much the same. The case of longest standing had marked contractures and atrophy of the muscles, with irregular menstruation and absence of the patellar reflex. Contractures were present in the two remaining cases, but they could be overcome; the patellar reflexes were absent. In the case of the boy there had been incontinence of urine, with frequent syncopal attacks. There had been no vaso-motor disturbances in these four cases. The result of treatment was negative. Usually the first symptom noticed by patients in this disease was that of uncertainty in gait and feebleness of the lower limbs. This would progress until they were obliged to leave off active work. At the same time some slight pain and numbness might be present. Within a year the knee-jerk would disappear. In four or five years the arms would become affected with incoordination; then bulbar symptoms—such as thick speech and sometimes nystagmus. Vertigo and headache were likely to be present, with no involvement of bladder or rectum. Some form of club-foot and curvature of the spine would now come on. As the disease progressed, paraplegia, with curvatures and wasting of the muscles, would take place. Among the rarely observed symptoms were tremors, spasms, decreased electrical irritability, muscular atrophy, vaso-motor paresis, polyuria, glycosuria, anæsthesia, fibrillary tremor, choking attacks, ptyalism, strabismus, diplopia, blepharospasm, slight ptosis, sluggish pupils, incontinence of urine, and fragilitas ossium. Many of these symptoms were, however, exceptional and accidental. Ataxia was the fundamental and most important symptom, and by it was recognized the degree of passive or active movements of the limbs, their position in space, and the amount of resistance or weight applied to the muscles. Our cognizance of these depended upon a knowledge of the afferent sensory nerves supplying the joints, tendons, sheaths, and muscles. When there was a loss of power to perceive the weight of objects and tension of muscles, the nerves supplying these parts were chiefly affected, and we had muscular anæsthesia. Where there was loss of power to appreciate the amount of tension in or contraction of a muscle and of the relation of the limb segments to each other, there was both a muscular and articular anæsthesia, and there was what was known as static ataxia. When there was a loss of power to determine the degree of active contraction of the muscles or movements of the limbs, there was chiefly articular anæsthesia and locomotor ataxia.

In Friedreich's disease, motor ataxia was always present and very marked. Static ataxia, which called into play the muscular sense, was less pronounced. While the patient's gait was very inco-ordinate, he knew the position of his legs, could tell differences in weights, and could stand fairly well with the eyes closed. There had been thirteen autopsies made in cases of Friedreich's ataxia, the disease in most of the cases having lasted over ten years. The examinations had led to quite uniform results. The lesions of importance were found in the spinal cord and medulla only. The cord was usually small, flattened, and congenitally imperfect in development. A sclerosis had existed throughout the whole length of the posterior and lateral columns, sometimes extending to the anterior columns, but most marked in the postero-median column. The postero-external column was less involved, and there was often a narrow strip of healthy tissue between the posterior horn and the sclerosed area, also between the posterior gray commissure and the diseased parts. The sclerosis of the posterior column was most marked in the lumbar region. The gray matter often appeared small in amount. Some chronic lepto-meningitis, especially on the posterior surface, had been noted. The medulla showed some extension of the sclerosis; the involvement of the cells of the hypoglossal nucleus was probably the most significant change. The brain showed no changes of importance. The posterior nerve roots were extensively sclerosed, the anterior less so, and the peripheral nerves had shown no degenerative changes. The disease was essentially one of primary degeneration. The persons affected by it were born with nerve tracts which had not sufficient vitality to develop in accordance with the needs of the individual; there was consequent atrophy, and connective tissue took the place of nerve fiber. This was the same process which took place in the locomotor ataxia of adults. The distinction between Friedreich's disease and true tabes dorsalis was ætiological and clinical, but not pathological. The clinical peculiarity which especially distinguished Friedreich's ataxia was the freedom from cutaneous anæsthesia, pain, and involvement of the organic centers.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of Tuesday, January 7, 1890.

The President, Dr. George W. Jacoby, in the Chair.

Neurotic Tumors of the Breast.—A paper, by Dr. E. P. Fowler, thus entitled, was read in the absence of the author by Dr. Ingram.

Seven cases were adduced, giving their history, the treatment, and results. The author inclined to believe that the cases cited gave reasonable ground for regarding these and similar ones as being dependent upon certain conditions of the generative apparatus, conjoined possibly with the spinal cord, depending sometimes, perhaps, on local hyperæsthesia and sometimes on local or general anæmia. These cases seemed to accompany a more than ordinary sexual differentiation, a disposition to hysteria, profusion of hair, eyelashes and eyebrows darker than the hair, lips full. The tumors were characterized by hardness, freedom from attachments, great sensitiveness upon light pressure (heavy pressure, though painful, might at the same time afford a certain degree of relief), no other glandular swellings, and great sensitiveness over the ovaries. There was also an indurated and sensitive cervix uteri, and often extreme sensitiveness along the cervical vertebræ.

The author found the subject of these troubles decidedly above the average in intellectual ability and quickness; apt to possess a strong religious bias, though not necessarily a firm moral groundwork. The treatment consisted in great degree of massage applied to the neck of the womb, the ovarian regions, and the cervical portion of the spinal column, and marriage alone might often furnish every requisite. The tumors observed by Dr. Fowler had varied between the size of an English walnut and that exceeding the volume of a hen's egg.

The Gallup Lunacy Bill.—Dr. Frederick Peterson presented for the consideration of the society the proposed new lunacy law for New York State, which had been drafted by Dr. Stephen Smith, and which had last year passed both houses under the foregoing title. It had failed to become a law through the Governor's indisposition to affix his signature. The bill would be re-introduced at this year's legislative session, and Dr. Smith was desirous of having the society's criticism of its provisions previous to such introduction. It would be remembered that the bill had been informally discussed at a meeting of the society last spring, when the manner of commitment proposed in it had been strongly condemned because of its complexity. Although somewhat revised in portions, there had been no particular change made in the paragraphs relating to commitment, which read as follows:

"Whenever a justice of the peace, or a superintendent of the poor of a county, or the overseer of the poor of a town, or a judge of a court of record, shall receive information that a certain person, deemed insane, should be placed in custody, for either of the causes stated in Section 1 of this act (in accordance with form B), the said justice, or superintendent, or overseer of the poor, or judge, shall, by an order in writing (in accordance with form C), direct two examiners in lunacy to examine the alleged insane person and report to him under oath within one day, exclusive of Sunday, after their respective examinations (in accordance with form D), the results of such examination, with their recommendation as to the special action necessary to be taken in the case; if a justice of the peace, or a superintendent, or overseer of the poor issues the order for an examination, he must personally visit the alleged insane person; if the physicians certify that the person so examined is not insane, the justice, or superintendent, or overseer shall dismiss the case; but if they certify that he is insane and a proper subject for commitment, as provided in Section 1 of this act, said justice, or superintendent, or overseer shall certify, under his hand, to the correctness of the proceedings and to his personal visit (in accordance with form E), and shall cause said certificates to be delivered to a judge of a court of record within two days, exclusive of Sunday, of the date of the last certificate made, which last certificate must not bear date of more than two days of the first certificate.

"On receiving said certificates from a justice of the peace or superintendent or overseer of the poor, or, on receiving the sworn certificate of two examiners in lunacy, appointed by himself, certifying to the insanity of any person, and recommending that he be placed in custody for cause, then and in either case the said judge may or may not visit the alleged insane person, or require that he be brought into court, but he shall state in the order of commitment whether or not he saw him, and if he did not see him he shall give the reason therefor; the judge may or may not take further testimony, and he may call a jury, but in either case, if satisfied that the person is insane and that the reasons given for his commitment in the certificates are just and right, he shall make an order (in accordance with form F) committing said person to the custody of the superintendent of the proper State asylum for the insane, or the keeper or superintendent of a private asylum or licensed house for the insane; said order shall be issued within five days after the date of the last medical certificate; a copy of said medical certificates and answers obtained in accordance with form D shall be transmitted with the order of commitment to the superintendent of the respective asylum, and the original thereof shall be filed in the office of the clerk of the county, and shall be inaccessible except on the written order of a judge of a court of record; nothing in this section shall be construed to prevent the commitment of an insane person in accordance with the provisions of this act to the asylum of any county authorized by law to have the care of the acute and chronic insane, *provided* the said insane person is a legal resident of said county.

"It shall be the duty of the judge, before he makes the order of commitment, to cause the alleged insane person to be fully informed of the action about to be taken concerning him; and if said insane person, or his friends or relatives, demand that other testimony be taken, or that a jury be called, the judge shall act at his discretion, but if he deny the motion he shall state the reasons therefor in the commitment."

There were many admirable reformatory features in the bill, of which physicians with asylum experience were cognizant. These related to the removal of patients to institutions by attendants of their own sex; the provision for the reception and discharge of voluntary patients; the commitment in emergency cases for three days without formal procedure; the forbidding of confinement of lunatics in jails for more than a limited period of time; the provision of home furloughs for patients of indefinite duration at the discretion of the asylum physicians; and, finally, the boarding out of chronic lunatics in private families.

Dr. Peterson moved that a committee of five be appointed to examine the bill and present a report for discussion at the February meeting of the society. The motion, after amendment by Dr. C. H. Brown that the committee should consist of but three members, was carried.

Dr. Dana thought that there should be some provision made also for the commitment of morphine and alcohol inebriates.

The president appointed as such committee Dr. Frederick Peterson, Dr. Charles L. Dana, and Dr. Ralph L. Parsons. The president becomes also a member *ex officio*.

NEW YORK SURGICAL SOCIETY.

Meeting of December 11, 1889.

The President, Dr. C. K. Briddon, in the Chair.

(Concluded from page 133.)

A Large Ovarian Tumor.—The President related the history of a case of ovarian tumor of enormous dimensions upon which he had recently operated, and showed a photograph of the patient. (See page 141.)

In reply to a question by Dr. McBurney, the President said that after death no peritoneal structure could be found.

Tumor of the Bladder.—Dr. McBurney showed a pathological specimen and stated that about a month ago a patient, thirty years of age, had been brought to him suffering from retention of urine, to relieve which numerous attempts had been made by means of instruments with varying success. Hæmorrhage had been noticed on two occasions. The patient was really in a very desperate state and he was taken to the Roosevelt Hospital, where an examination demonstrated that he was suffering from the effects of uræmia. Percussion showed the bladder to be distended so as to reach as high as the umbilicus. The long axis of the tumor was slightly drawn to the right from the median line—enough to attract attention as different from the ordinary elastic overdistension of the bladder. On attempting to pass a catheter, it was found that the instrument went into soft tissue. On account of the very feeble condition of the patient, the speaker gave up any idea of perineal section and a possibly time-consuming search in that way for the urethra. An incision was made in the median line above the pubes, when elastic tissue was felt, which seemed to be the distended bladder. Not a drop of fluid escaped, and on passing the finger into the wound it passed into a mass of jelly-like material. Some of this was turned out and proved to be decolorized blood-clot. The man had not passed any water for many hours, and it was a matter of doubt where the bladder really was. Above this blood-clot was another tumor slightly different in consistence. This was the bladder, filled with fluid, and displaced to one side by this mass, which consisted of blood-clot. Passing the finger then into the bladder, the orifice of the urethra was found completely encircled by a large tumor. The half-decolorized blood-clot had pushed the bladder away from its normal position above the pubes. The general condition of things would not allow of anything more being attempted. The patient only lived about a day and died from uræmia, for which there was ample cause. The specimen was of interest on account of the tumor in the bladder. It could be seen in position completely surrounding and occluding the outlet. No microscopic examination had been made. The patient's kidneys showed signs of cystic disease and of pyelitis. The ureters were very largely distended. The pathologist at the hospital thought the tumor was sarcomatous. The decolorized blood-clot was so extensive that it could be removed by the handful. It was extremely interesting to note that such a large hæmorrhage could occur into the connective tissue, caused evidently by the misdirected use of instruments, and yet not become infected.

Abdominal Section for Appendicitis.—The President read the histories of two cases that had occurred in his practice during the two previous weeks, and they illustrated in a marked manner the position taken by Dr. McBurney in a paper on the early operative treatment of appendicitis.

Case I (reported by Dr. Henry L. Shively).—G. L., aged thirty-three, butler, married, native of England. There was no morbid family history. The patient had denied any rheumatic, nephritic, or specific history. He had had malarial fever at different times. There was moderate alcoholic habit. Three years ago, in London, the patient had had an attack of typhlitis from which he had recovered without an operation. He had been told by his physician at that time that he might expect a recurrence of the disease. Two years ago he had had an inguinal hernia which had, however, given him but little inconvenience. His general health had been excellent up to the 11th inst. On the evening of that day he was seized with a violent pain in the umbilical region which soon shifted to the right iliac fossa. Vomiting ensued, first the contents of the stomach, and later bile and mucus. Constipation was absolute. All medicines were vomited. The patient, when admitted to the medical division of the Presbyterian Hospital on November 13th, had a temperature of 102°, pulse 126, and of high tension. Respiration was rapid and thoracic. The facial expression was anxious, denoting great physical suffering. There were no cardiac murmurs and the lungs appeared normal. The abdomen was markedly tympanitic. Examination of the liver and spleen negative. On palpation, there was extreme tenderness in the region of the caput coli extending laterally nearly to the median line. This area was much reddened and excoriated by the active counter-irritants which had been used. It was thought that an ill-defined resistance could be felt on deep palpation. On November 14th the patient was well under the influence of opium and suffered no pain. The abdomen was more tympanitic; decubitus was dorsal; knees were drawn up; facies had assumed a greenish hue. The patient was first seen by the speaker at 3 p. m., when an immediate operation was advised. The patient was etherized, the abdomen having been shaved and thoroughly asepticized. The field of operation was surrounded with aseptic towels. An incision was then made in the right hypochondrium, beginning a little below the free border of the ribs and extending downward and slightly inward a distance of four inches and a half. The skin, muscles, and fascia were divided down to the peritonæum, which was found intensely congested. As it was cautiously opened, about a drachm of creamy pus escaped for which there was no obvious source, as it was not encapsulated and the vermiform appendix was not yet in view. As the relations of the parts were explored, several drachms of pus appeared and were carefully removed with sponges. The cæcum and loops of small intestine were injected and flakes of fibrin were found loosely adherent to the surface of the gut. The appendix was found behind the cæcum and presented the same congested appearance as the surrounding structures. There was no evidence of perforation or presence of unusual contents, and its removal was not considered necessary or expedient. The patient's condition called for a rapid conclusion of the operation. After thorough irrigation with sterilized hot water the incision was partially closed by interrupted sutures of silk-worm gut and catgut. Two drainage-tubes were used and a tampon of iodoform gauze. The dressing was completed by absorbent cotton and binder. During the operation the patient had breathed badly, and at times was very cyanotic and required frequent stimulation. The pulse was small and feeble—130 to 140 in a minute. The patient came out from the anæsthesia but did not react from the operation. Pulmonary œdema developed and he died at 2.30 a. m., November 15th.

Case II.—Mrs. L., aged twenty-four, married eight months. Menstruation had been regular; no history of any previous disease. The patient had visited the theatre on November 19th. During the last act she had suffered from severe epigastric pain. Arriving home, she had taken some domestic remedy which had produced alleviation. The pain was still so severe, however, that she was obliged to send for a physician. When seen about one o'clock in the morning she was suffering from diffuse abdominal pain radiating from the epigastrium, where it was most severe. There was abdominal tenderness, but most marked in the right hypochondrium. Pulse 72, temperature normal. Morphine was administered, which relieved her considerably, and she felt like sleeping. At 7 a. m. she was seen again, the pain having returned with much severity. Pulse 112, sublingual temperature 100°, pain localized over the appendix. Slight percussion caused sharp pain. The diagnosis of appendicitis was made. Two hours later her temperature was 101° F., pulse 120. The gravity of the disease was announced to the family, and a consultation was called and an immediate operation urged. The consent of the husband could not be gained until further consultation could be had. The operation of laparotomy was performed by the speaker at midnight. He was ably assisted by Dr. McBurney, Dr. Milbank, and Dr. Taylor. The patient being etherized, Langenbuch's incision, six inches long, was made. The parietal peritonæum was finely injected but no adhesions existed. The cæcum was turned out and the appendix found, bent at an acute angle, lying behind the outer portion of the intestine. Tracing it up as far as the finger could reach, its club-shaped extremity was found about four inches distant. In the middle of the appendix could be felt a foreign body about half an inch in length. Behind this the tube was dilated to a diameter of three fourths of an inch. At the point of greatest distension, where the walls were attenuated, was an area of a purplish hue. The appendix was tied at its junction with the intestine and was removed entire. Four hours after the operation the temperature was 100·5°, pulse 130. After this the temperature gradually rose until the 22d, when it reached 103·8°, with the pulse 136. As there was some tympanitic distension of the abdomen, the patient was ordered one ounce of sulphate of magnesium in divided doses, and after this a turpentine enema. A movement of the bowels was followed by a decline in the temperature. Owing to some disturbing element for which the operation was not responsible, the temperature rose on the morning of the 26th to 101°, but declined in a few hours. At the present time, six days after the operation, the temperature was normal. The drainage-tube was removed in forty-eight hours and replaced by a few strands of iodoform gauze.

The speaker thought that these two cases illustrated in a marked manner the advantages of the early operation and the disastrous effects of delay. Occasionally cases might be met with where abscess had already formed, and in such it was perhaps better to wait.

Reports on the Progress of Medicine.

OBSTETRICS.

By ANDREW F. CURRIER, M. D.

Methods of Craniotomy (Donald, Trans. of the Obst. Soc. of London, 1888).—It is a matter of great importance that such operations as craniotomy should reach the highest perfection of which they are susceptible. There are undoubtedly cases in which the operation is indicated even for those who hold the most advanced views in regard to the Cæsarean section. Such indications as the following require this operation :

1. Application of the forceps for a long time without appreciable progress, or cases of version in which it is impossible to extract the head.
2. The certainty that the fœtus is no longer living.
3. Such a condition of the mother that the Cæsarean operation would almost with certainty be followed by death.
4. Certain varieties of deformity of the fœtus.

The method of craniotomy will vary according as there is a greater or lesser degree of pelvic deformity. In the latter case the method which is to be preferred will depend in great measure upon the character of the efforts which have already been made.

If the forceps has been used unsuccessfully, the vertex of the fœtal head should be perforated and the forceps then used as a tractor. In the higher degrees of pelvic deformity the method will consist, first, in podalic version and extraction of the body; second, in perforation through the palatal process ; third, in cephalotripsy ; fourth, in extraction of the body by means of the cephalotribe or by traction upon the body and the inferior maxilla, combined with pressure above the pubes. The advantages of this method are :

1. The base of the cranium is more effectually destroyed.
2. The head is firmly fixed during perforation and destruction of the brain.
3. The position of the head may be varied, the cephalotribe being applied in different directions, so as to adapt the smallest diameter of the crushed skull to the proper diameter of the pelvis.
4. The head having been crushed, it will be more easy to exert traction upon the jaw and the body of the fœtus, combining suprapubic pressure therewith.

In the discussion upon this paper Dr. Champneys remarked that the proportion of craniotomies in London was smaller than had been stated by the reader. The sphere of utility of the forceps had been enlarged since the introduction of Tarnier's axis-traction forceps. As to the action of the cephalotribe, it was generally believed that compression of the transverse diameter of the head would produce dilatation of the antero-posterior diameter. The speaker did not believe that compensatory dilatation was produced, but that the change in the head consisted in its vertical prolongation the same as in traction by the craniotomy forceps.

Dr. Galabin agreed with the reader in his choice of the cephalotribe after craniotomy, in preference to any other form of extractor. He preferred perforation and extraction to decapitation. The diameter of the head could be diminished to the extent of thirty-seven millimetres, which would permit extraction through any pelvis.

Dr. Herman thought the advantages of Tarnier's forceps had been exaggerated. The mortality from craniotomy did not exceed that from normal parturition. The comparative facility of cephalotripsy and cranioclasty depended entirely upon the experience of the accoucheur. The advantages of the cephalotribe do not compensate for the dangers accompanying version. Perforation should always be through the occiput.

Dr. Gervis observed that the advice of the reader to perforate the head while the forceps was adjusted and then to use it as a tractor in cases in which the pelvic deformity was not great deserved further trial. He did not think that version was an extremely difficult operation in cases of narrow pelvis.

Dr. Routh remarked that in those cases in which there was difficulty in perforation or cephalotripsy, in breech presentations a method could be adopted which he had seen tried in Vienna. It consisted in decapitation with large curved scissors, after which craniotomy or cephalotripsy could be readily performed.

Dr. Horrocks had found the cephalotribe satisfactory in all suitable cases, and never had recourse to the cranioclast.

Dr. Griffith had found it convenient after perforation to use a strong cranioclast. Traction and rotation were then slowly performed and the base of the skull was crushed, as could not be done with the cephalotribe. After this operation extraction could easily be accomplished without injury to the soft parts of the mother.

The Duration of Pregnancy and the Epoch of Conception (Olshausen, Trans. of the Berlin Obst. and Gyn. Soc., 1888).—The new German Civil Code, in its articles 1467 and 1572, contains references to the epoch of conception which are of much importance to the physician and obstetrician. By "epoch of conception" is understood among jurists that which among physicians is termed "duration of pregnancy." The articles in question determine this period for living children, whether legitimate or illegitimate, between 180 and 300 days, both inclusive. A child born in matrimony is always to be considered legitimate unless the husband denies that there has been cohabitation during the period of pregnancy limited as above. No express statement is made as to the meaning of the term *living-born child*, but forensic medicine usually understands by that term a fœtus which has breathed before parturition was completed. There is no doubt that fœtuses born 180 days after conception are susceptible of respiration, but so are those which have lived only 170 or 160 days, and they may even breathe for hours; hence the limit of 180 days would seem to be too large. Another important question to decide is that which concerns vitality, and opinions upon that point are very divergent. If vitality means capacity for continued existence, the period of 180 days would be too short. Only those which have reached the age of 189 to 196 days are, as a rule, capable of continued existence; the 27-weeks fœtus, according to Ahlfeld, having a weight of 1,142 grammes and a length of 36·3 centimetres, the 28-weeks fœtus a weight of 1,635 grammes and a length of 40·4 centimetres. The limit of 300 days is less exact than the other extreme, 180 days, for all obstetricians admit that there have been pregnancies lasting 310 to 320 days. Olshausen had a case in which pregnancy lasted 324 days, the fœtus when born weighing 3,225 grammes and measuring 60 centimetres in length and 41 centimetres as to the circumference of his head. Winckel thinks that pregnancy extends to 300 days in 6·8 per cent. of cases. Hohl thinks it may extend to 321 or 336 days. Matthews Duncan reports one pregnancy of 325 days' duration, and Krüche another of 330 days. In animals also a similar irregularity has been observed; in cows, for example, with which the normal period is 280 days, as in women, it not infrequently extends to 321 days. In extra-uterine pregnancy it has been observed without doubt that the fœtus may remain alive for weeks after the termination of the normal period. Olshausen therefore suggests the following propositions :

1. If respiration is to be considered the evidence of a living child, the limits for that function should be fixed at 160 to 165 days.
2. If the question concerns vitality rather than mere respiration, the limit should be fixed at 195 days.
3. The extreme of 300 days should be extended to 320 or 325. For widows the period of 320 days may be established as a maximum period to establish legitimacy.

The Complication of Pregnancy by Fibromata (Phillips, Prog. Gin., May 10, 1889).—The following conclusions were reached from the study of this subject:

1. During pregnancy the presence of fibromata may cause abortion, for a tumor in the walls of the uterus is obnoxious to the symmetrical development of the organ.

2. Or they may cause local peritonitis with adhesions to the intestines, rectum, etc., and the pain may be so severe that interference may be required at an early period of pregnancy.

3. A tumor may obstruct the pelvic canal and necessitate the performance of the Cæsarean or Porro operation.

4. They may be the cause of abnormal fœtal presentation, the result being the death of the fœtus.

5. The placenta may become adherent to the tumor and require artificial extraction. Placenta prævia is a common accompaniment of uterine fibromata.

6. Uterine contraction may be rendered more or less ineffectual on account of the presence of the tumor, and involution be retarded.

7. Morbid softening and disintegration may occur before or after labor, and may result in peritonitis with all its consequences. Torsion of the pedicle with subsequent gangrene of the tumor have been observed.

The different results which were possible according as the tumor occupied the superior or inferior segment of the uterus or the cervix were studied; also the results of various operations which had been performed either before viability, or during the latter part of pregnancy, or during labor.

The Use of Anæsthetics in Natural Labor (Charpentier, Bull. et mém. de la soc. obst. de Paris, 1889, No. 5).—Obstetric anæsthesia is quite different from surgical anæsthesia, the latter being indicated for all obstetrical operations. Obstetric anæsthesia may be general or local. For the former are used ether, chloroform, chloral, and a variety of mixtures, including the bromide of ethyl and the protoxide of nitrogen. Chloral can hardly be considered as a general anæsthetic in the same sense as ether and chloroform. An injection of three or four grammes of chloral in solution given during the period of dilatation, and repeated perhaps in four or five hours, will often prove of the greatest benefit and comfort to the patient, regulating the pains, moderating the suffering of the patient, and abbreviating the duration of labor. In the latter part of labor chloral is less useful than chloroform, this substance being now almost universally used in parturition. When it is employed only in the first stage of anæsthesia no particular influence is exerted upon the contractions. If it is pushed to the second stage the contractions are retarded, but soon resume their normal rhythm. In the third stage of chloroform anæsthesia the contractions are diminished, or may cease altogether. This is a stage of danger, for not only the uterus but the heart and other muscular organs may be paralyzed. The fœtus experiences very little of the effect of the chloroform. The author's experience is summed up in the following propositions:

1. Chloroform given in small doses produces a condition of physical and moral calm in the patient.

2. If the inhalations are prolonged for a considerable time, the result will usually be an attenuation of the uterine pain. The perceptions of the patient become less keen and the uterine contractions are slower.

3. If the period of complete anæsthesia is reached with analgesia there is surgical and not obstetrical anæsthesia.

4. In some cases chloroform excites instead of calming, and in such cases its use should be discontinued.

5. In some cases chloroform has unquestionably diminished the retractability of the uterus, and has thus been the cause of more or less severe hæmorrhage after labor.

6. Chloroform has no action upon the fœtus.

7. Chloroform given during the period of expulsion has a less decided effect upon the contractions of the abdominal muscles and the resistance of the perinæum than is generally supposed. The sensation of pain at that period is not entirely abolished, the contractions are frequent, and Charpentier has failed to notice that which has been called by Campbell dissociation of the sensations of touch and pain.

Chloroform is especially indicated—

1. In primiparæ who are nervous and excitable, and in whom the pain may even cause delirium; also in those with whom the labor is greatly prolonged, thus becoming a source of danger.

2. In all cases in which there is spasm, contraction, or rigidity of the neck or body of the uterus. Contra-indications are the absence of severe suffering, the existence of placenta prævia, general prostration, disease of the circulatory or respiratory organs, cerebral disease, alcoholism, etc.

During the period of dilatation chloroform is most required, but only to the extent of obstetric anæsthesia, as a rule. It sometimes gives rise to nausea, vomiting, headache, and various nervous troubles. Hæmorrhage is not likely to result unless the anæsthesia is profound. Chloroform can not cause convulsions; on the contrary, it is one of the best means for relieving them. It may also be useful in warding off puerperal mania from those patients in whom the intense pain of parturition might lead to such a result. Dutertre has found reports of forty cases of sudden death during labor attributable to chloroform, but of that number thirteen should be eliminated as irrelevant. Of the others, some had cardiac or pulmonary disease, some suffered from alcoholism, and in others the narcosis was too profound. A first condition in the use of chloroform is that it be chemically pure; death from respiratory syncope may follow the use of an impure article. Smal quantities should be given, the patient being in the horizontal position, and there should be an interval between successive inhalations.

Subcutaneous injections of antipyrine, twenty-five centigrammes at a dose, have been used in a number of cases to produce obstetric anæsthesia. Chiari and Guéniot report good results from its use. Various mixtures have been suggested, in most of which ether, chloroform, or chloral is an element. Doléris has advised the local use of a five-per-cent. solution of cocaine muriate to mitigate the pain of labor, but the author expresses his views upon the subject as follows:

1. Nothing can be applied to relieve the pain caused by the distension of the lower segment of the uterus which causes the pain felt during the contractions.

2. Applications of cocaine may give relief if they reach the nerve endings of the supravaginal and infravaginal portions of the cervix and the nerves of the vagina. Thus the pain of dilatation may be modified.

3. For the pain produced by compression of the nerve trunks of the pelvis no local application will avail.

4. The pain in the vulva and vaginal mucous membrane during expulsion may be somewhat modified by local applications.

As to the value of hypnotism in parturition it must have a limited range. Of thirteen cases in which it was tried, it was successful in only four, the patients all being of a hysterical temperament.

The Causes and Treatment of the so-called Uncontrollable Vomiting of Pregnancy (Guéniot, Cconcours méd., Sept. 28, 1889).—The author thinks it is an erroneous idea that any one method of treatment or medicinal agent can be of service in all cases of the vomiting of pregnancy. The so-called uncontrollable vomiting may arise from various causes, and three organs or apparatuses concur in its production. These organs are the uterus, the point of departure of the troubles which involve the other organs; the nervous system, both spinal and ganglionic, which by means of its reflex power transmits to a distance the troubles which start from the uterus; and the stomach, which suffers from the action of the uterine stimulus. In order to treat this form of vomiting with a success which shall be almost uniformly good, one must resort to a complex treatment which is addressed simultaneously to the three sources of the disease.

There are three fundamental indications to be satisfied:

1. The morbid or abnormal excitement of the uterus must be allayed by remedying the different pathological conditions which produce it. Various means may be used for this purpose, including the use of belladonna, cocaine, morphine, vaginal injections or appropriate topical applications, the Gariel pessary, elevation of the pelvis with inclination of the body, cauterizations, and artificial dilatation of the cervix.

2. The activity of the reflex transmissions must be diminished or suppressed by the use of bromo-chloral, by chilling of the spinal region, by moral influences, etc.

3. The intolerance of the stomach must be treated by calming its erethism and relieving its different disorders by careful diet, by abstinence from all acid drinks, by the use of alkaline water with small quantities of ice, by a flying blister at the epigastrium, and by suitable laxatives. The stomach must be relieved from work as far as possible, and medicaments must be introduced *per rectum* or subcutaneously as far as possible.

Puerperal Infection (Vidal, Prog. Gin., July 25, 1889).—The conclusion of the author after an extensive series of investigations is that, in general, infectious accidents, whether acute or chronic, of puerperal origin are due to a common micro-organism—the *Streptococcus pyogenes*. It is the cause of the suppurative and pseudo-membranous forms of puerperal disease, the septicæmic form which is without visible lesion, and of *phlegmasia alba dolens*. All these varieties and forms of infection are due not only to such factors as the quantity of the infecting germs and the soil upon which they are developed, but upon the virulence of the germs, which varies under different conditions. It is an interesting fact that while various forms of micro-organisms may be found in the uterus after parturition, only the streptococcus will infiltrate the uterine walls, and then only when the mucous membrane of the cavity has been broken or eroded. The microbe is developed in the lymphatics and veins of the uterus perhaps without the escape of a drop of pus, but it will cause suppuration in the joints, muscles, or serous membranes. A study of the suppurative form of puerperal fever shows, in many cases, that infections in which there is locally only a small quantity of pus may be generalized throughout the entire body, bacteriological examination revealing the streptococcus in all the viscera with more or less severe non-suppurative diseases as a result. Among such diseases may be mentioned fatty degeneration of the liver, granular degeneration of the kidneys, and epithelial pneumonia. Thus an explanation is given why certain infectious diseases localized in the pelvis may be cured, and others with similar phenomena are fatal. The author also shows that pyæmic abscesses are not always due to uterine or circumuterine phlebitis, as the old theory taught. Microbes transported by the blood may act as foci of suppuration, fragments of blood thrombus serving as a vehicle by which they are carried. In chronic purulent infection, after a certain time, the microbes remain encysted in the pus of the abscesses, they are no longer found in the blood or in the organs, and the infection becomes localized again. These facts are related to those which have been observed in purulent pleurisy of puerperal origin. The latter disease presents different conditions; it may be unperceived in the midst of other suppurations which accompany it, or the pus may be localized, from the beginning, exclusively in the pleural cavity, death quickly supervening. In other cases it may be late in its appearance, persisting after the general infection has disappeared, and the virulence of the microbes may be very slight. Puncture of the chest in such cases, and evacuation of the pus, may be sufficient to effect a cure. In pure non-suppurative septicæmia and in the pseudo-membranous form the same streptococcus was shown to be the causative factor. These demonstrations have also proved that puerperal *phlegmasia alba dolens* is of infectious origin, the cause being an inflammation of the vein which is due to a deposit of streptococci upon its endothelium, the microbes having been brought by the blood. The inflammation of the wall of the vein is followed by the formation of a thrombus. Pathological anatomy and microbiology are thus in accord with clinical observation in demonstrating that between the milder forms of *phlegmasia alba dolens* and the severer forms of suppurative phlebitis there is no difference save that of degree, the lesion being the same in each case and the cause identical. The final conclusion of Vidal's work with reference to the relations clinically established between erysipelas and puerperal infection is that the streptococcus derived from the discharges of a woman who has been attacked with puerperal infection may produce erysipelas the same as if the streptococcus were obtained from erysipelatous tissue itself.

Cephalotribe, Basiotribe, and Cranioclast (Lauro, Nouv. arch. d'obst. et de gyn., 1889).—A series of clinical and experimental studies has been made by the author to determine the relative value of the instruments referred to. The fenestrated cephalotribe is considered the most efficient form of that instrument, while the cranioclast of Auvard and the basiotribe of Tarnier are preferred when such instruments are required.

From an experimental point of view in normal cases, all these instruments are capable of crushing the skull. If the base of the skull is inclined, the cephalotribe is preferable. The basiotribe is efficient in crushing the base, and will favor rotation. The cranioclast does not favor rotation, but the crushing force which it exerts is in some cases superior to that of the other instruments. The basiotribe and cranioclast are better than the cephalotribe, since they admit of more traction force, are easier of application, and have a better grip upon the head. For the author the operative work in the application of the cephalotribe and cranioclast is easier than with the basiotribe, and he has found the latter instrument the more dangerous, as its central perforating branch may perforate the uterus. The basiotribe and cranioclast have less regard to the relations which subsist between the diameters of the head and the pelvis. The traction force varies greatly with the different instruments, eighteen kilogrammes representing the possibilities of the cephalotribe, twenty the basiotribe, and thirty-eight the cranioclast. The most important point is as to the degree of pelvic contraction in which these instruments are indicated, and Lauro's experiments showed that the cephalotribe and cranioclast would act efficiently and without apparent contusion in diameters of forty-five millimetres, while the basiotribe required a diameter of at least fifty-five millimetres.

From the clinical standpoint the author's studies have demonstrated that with the cephalotribe we can operate in diameters of sixty or even fifty millimetres, while with the cranioclast we must have diameters of sixty or even seventy millimetres. The cephalotribe is not the ideal instrument for embryotomy, but neither is the cranioclast nor the basiotribe. A perfected cephalotribe will probably answer all the necessary requirements for grasping and traction.

Extra-uterine Pregnancy (Lopez, Prog. Gin., June 25, 1889).—The following are the author's conclusions:

1. The physician should know how, whence, and when fecundation is effected.

2. One should recognize in extra-uterine pregnancy the existence of the life of the fœtus the same as in normal uterine pregnancy.

3. The only forms of extra-uterine pregnancy are abdominal and tubal.

4. With regard to the termination of embryonal development, whether in extra-uterine pregnancy or in uterine pregnancy in which there has been rupture of the uterus and fall of the fœtus into the abdominal cavity with unruptured membranes, if such pregnancy has continued to term, extraction should be performed by the appropriate operation.

5. If the fœtus has died, whether in cases of extra-uterine pregnancy or in those in which there has been rupture of the uterus and fall of the fœtus and membranes into the abdominal cavity, an appropriate operation for extraction should be performed.

6. No interference should be attempted as long as the fœtus is living unless eight months have passed since conception.

Treatment of Post-partum Hæmorrhage by Intra-uterine Compression of the Aorta (Sejournet, Ann. de Gyn., October, 1888).—The methods employed to check post-partum hæmorrhage are divided into two classes by the author: 1st, internal hæmostatic processes—that is, the use of drugs; 2d, external or obstetrical processes. The first class of methods, which may be represented by ergot, is considered inefficient in case of pressing and threatening danger. The external methods are divided into extra-uterine and intra-uterine varieties. Extra-uterine methods are the ones which are generally used, and include the use of cold applications to the abdomen, ventral compression by the bandage, pressure upon the uterus with the hand, abdominal compression of the aorta, and galvanism. The intra-uterine methods include the introduction into the uterine cavity of ice, lemon-juice, vinegar, solutions of iodine, of perchloride of iron, or of water at a temperature of 40° to 50° C. The intra-uterine tampon has also been advised. All these means are useful but inefficient, for they presuppose materials, assistants, and apparatus which may not be at hand when the emergency arises. The method which is advocated is intra-uterine compression of the aorta. The right hand, having been carefully disinfected with sublimate, is to be passed into the uterine cavity, and the aorta, which can readily be found, is to be compressed against the vertebral column, compression being required for only a few seconds, when the flow will be arrested. This method has been practiced with success in a number of cases by the author, and by Budiger, of Tübingen, who described it ten years or more ago, in twenty cases. The method has also been described by Böer and by Jacquemin and disapproved by both. Objections which have been made are that the uterine hæmorrhage at such a time is rather venous than arterial, also that the compression does not affect the uterine and ovarian arteries. In spite of theoretical objections, the method may prove serviceable in an emergency.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending January 31st:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Jan. 26.	1,598,241	872	..	..	..	..	..	..	5	10	21	3	7
Chicago, Ill.	Jan. 25.	1,100,000	......	..	..	..	..	..	..	15	3	24	1	7
Philadelphia, Pa.	Jan. 4.	1,064,277	492	..	..	..	..	..	..	24	5	17	3	3
Philadelphia, Pa.	Jan. 18.	1,064,277	777	..	..	..	..	..	..	33	1	14	5	1
Brooklyn, N. Y.	Jan. 25.	852,467	432	..	..	..	..	..	..	2	4	23	3	1
Baltimore, Md.	Jan. 25.	500,343	267	..	..	..	..	..	..	3	1	7	11	2
St. Louis, Mo.	Jan. 18.	450,000	174	..	..	..	..	..	..	..	3	3	..	2
Boston, Mass.	Jan. 25.	420,000	214	..	..	..	..	..	..	2	..	17	..	....
Cincinnati, Ohio.	Jan. 25.	325,000	175	..	..	..	..	..	..	5	1	7	1	3
New Orleans, La.	Jan. 18.	254,000	121	..	..	..	..	..	..	3	..	2	..	....
Washington, D. C.	Jan. 25.	250,000	161	..	..	..	..	..	..	..	..	..	1	....
Detroit, Mich.	Jan. 18.	250,000	123	..	..	..	..	..	..	1	5	4	..	....
Pittsburgh, Pa.	Jan. 18.	240,000	79	..	..	..	..	..	..	4	1	5	1	....
Pittsburgh, Pa.	Jan. 25.	240,000	124	..	..	..	..	..	..	5	..	8	2	2
Cleveland, Ohio	Dec. 14.	240,310	99	..	..	..	..	..	..	3	2	6	5	2
Cleveland, Ohio	Dec. 21.	240,310	92	..	..	..	..	..	..	4	1	7	3	4
Louisville, Ky.	Jan. 18.	227,000	*82	..	..	..	..	..	..	1	..	3	..	....
Kansas City, Mo.	Jan. 25.	180,000	75	..	..	..	..	..	..	2	1	1	2	2
Denver, Col.	Jan. 17.	150,000	63	..	..	..	..	..	..	1	..	1	..	2
Indianapolis, Ind.	Jan. 24.	135,000	46	..	..	..	..	..	..	1	..	..	..	....
Providence, R. I.	Jan. 25.	130,000	71	..	..	..	..	..	..	..	..	1	..	....
Richmond, Va.	Jan. 18.	100,000	58	..	..	..	..	..	..	1	..	..	..	....
Richmond, Va.	Jan. 25.	100,000	38	..	..	..	..	..	..	..	..	..	..	1
Toledo, Ohio	Jan. 24.	92,000	28	..	..	..	..	..	..	..	..	4	..	....
Fall River, Mass.	Jan. 25.	69,000	51	..	..	..	..	..	..	..	..	1	..	....
Nashville, Tenn.	Jan. 25.	68,531	26	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Jan. 25.	60,145	41	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.	Jan. 25.	42,000	25	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Jan. 10.	40,000	9	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Jan. 17.	40,000	10	..	..	..	..	..	..	1	..	..	..	....
San Diego, Cal.	Jan. 15.	32,000	3	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	Jan. 22.	32,000	3	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	Jan. 17.	31,000	12	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	Jan. 24.	31,000	12	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	Jan. 25.	30,000	17	..	..	..	..	..	..	..	..	..	..	....
Canton, Ohio	Jan. 24.	30,000	5	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Jan. 11.	30,000	2	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Jan. 18.	30,000	5	..	..	..	..	..	..	..	..	..	..	..
Auburn, N. Y.	Jan. 25.	26,000	18	..	..	..	..	..	..	..	..	3	.	....
Newport, R. I.	Jan. 23.	23,000	7	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Jan. 18.	22,011	14	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Jan. 25.	22,011	15	..	..	..	..	..	..	..	..	1	..	....
Rock Island, Ill.	Jan. 19.	16,000	......	..	..	..	..	..	..	..	..	..	..	....
Keokuk, Iowa	Jan. 25.	16,000	6	..	..	..	..	..	..	1	..	..	..	....
Pensacola, Fla.	Jan. 18.	15,000	5	..	..	..	..	..	..	..	..	..	..	....

* Fourteen of these were from drowning in a caisson used in bridge-building.

Boxing the Ears and its Results.—"We would fain hope that, in deference to repeated warnings from various quarters, the injurious practice of boxing the ears, once common in schools, is fast and surely becoming obsolete. It is too much to say that this desirable end has yet been realized. Certainly the recent observations of Mr. W. H. R. Stewart do not give color to any such view. In a pamphlet on 'Boxing the Ears and its Results,' lately published, and illustrated by appropriate cases, he briefly summarizes his own experience in the matter. He reminds us that, notwithstanding the toughness of the aural drumhead, its tense expanse will rupture only too readily under the sudden impact of air driven inward along the meatus, as it is in the act of cuffing; and he shows that in one instance at least this injury resulted from a very slight though sudden blow. Given early and skilled attention, the wound may heal very kindly, but if the beginning of mischief be overlooked, as it often has been, further signs of inflammation soon follow, and a deaf and suppurating tympanum is the usual result. There is practical wisdom in the statement that this consequence most readily follows in the case of the poorly developed and underfed children who abound in every board school. In them an earache would probably receive no very strict attention, and disease might for a time work havoc unimpeded. Where chronic suppuration exists already, and it is only too common, a random knock on the ear may result, as in a case related in the Lancet in a fresh otitis, with fatal brain complications. Schoolmasters and others, who may at times be tempted to apply the correcting hand somewhat too carelessly, might read the few pages of this little work with equal interest and advantage. The close connection between ear and brain should never be forgotten, and the reflection that injury to the former organ most easily terminates in total deafness, and in suppuration which may any day take a fatal course, should assist in the preservation of a sometimes difficult patience."—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, FEBRUARY 15, 1890.

Original Communications.

FIXATION AND TRACTION IN THE TREATMENT OF HIP DISEASE.*

By JOHN RIDLON, M.D.,
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That there may be no question as to the principles which govern my treatment, let me state them before commencing with the discussion of the subject in hand. I believe, then, that inflammation in and about the hip joint should, in a general way, be governed by the same principles of treatment that govern the treatment of inflammation of like character affecting like tissues located elsewhere. I believe that physiological rest of the inflamed structures should be the chief end and aim of our treatment. By physiological rest I mean relief from the performance of the normal functions. The functions of the hip joint are motion and the sustaining of weight. Therefore, as applied to the hip joint, rest is relief from motion and the sustaining of weight. Involuntary muscular spasm may give pressure in the same way as does superimposed weight. The problem, then, would seem to be, in so far as it is possible, to immobilize the joint so long as any inflammation remains, to remove the superincumbent weight until convalescence is well established, and to counteract the muscular spasm so long as that spasm is in any way harmful.

To immobilize the hip joint I have used plaster of Paris (applied from the ankle to the axilla on the affected side), weight and pulley after the manner of Howard Marsh, Thomas's splint, plaster of Paris applied to both legs from the ankles to the axillæ, and the old Taylor hip-splint, supplemented by my thoracic attachment. Bradford's frame, the wire cuirass, and Phelps's portable bed I have not used, as they do not seem to me to have, except under certain circumstances, any special advantage over the double plaster splint and the double Thomas splint. As to which form of the above-mentioned appliances is to be chosen, the exigencies of the case and the materials at hand should decide. To remove the superincumbent weight I have placed the patient in the recumbent position (not, however, necessarily confining him to bed), on a high patten with axillary crutches, and on a long extension splint. The most effective is obviously the horizontal position; next to this stands the high patten (four to six inches) with crutches; while the most convenient is the long extension splint. To counteract the involuntary muscular spasm, I have used traction by weight and by splint, both in the line of the axis of the shaft and of the neck of the femur; and I have used the various forms of immobilization above mentioned.

It is asserted on good authority that fixation alone will, and that fixation alone will not, relieve the muscular spasm; that fixation will, and fixation will not, induce ankylosis; that traction alone will, and that traction alone will not, relieve the muscular spasm; that traction will relieve the pain, and that traction will cause pain; that traction will certainly destroy the joint, and that without traction the joint will certainly be destroyed. That these opposing views can be held and practiced by the most competent observers, and that, as it appears to me, they are in certain cases all well founded, shows how futile it is to pursue any routine treatment in every case of hip disease and expect to get the best possible results.

In considering the question from the standpoint assigned to me by our secretary—namely, fixation and traction—I would not be understood as discussing it in the sense of fixation *versus* traction, for under certain circumstances traction, inelastic and uninterrupted becomes a part of fixation; but rather would I be understood as discussing it in the sense of fixation *versus* the portative traction hip-splint when used during locomotion.

Traction with the patient recumbent had been used for a very long time before the idea of portative traction was conceived; it has been since that time in constant use by those who scouted the idea of portative traction and looked upon "motion without friction" as a mechanical absurdity. Traction with the patient recumbent is still used by the majority of the profession, and in certain stages of certain cases it does undoubtedly serve a most useful purpose in relieving pain due to involuntary muscular spasm. But the traction must be constant and uninterrupted, and in the line of the deformity; it must be combined with apparatus which prevents voluntary movements at the joint, and with the patient recumbent in bed, on a portable bed, frame, stretcher-bed, or some similar device. Traction thus applied is quite a different thing from traction applied by a portative traction splint while the patient is permitted to walk about. When a patient wearing the portative traction splint in walking lifts the affected leg, traction is made upon that leg to the extent of from five to eight pounds plus the weight of the splint, some five to seven pounds more; when the weight is borne upon the splint, in the process of lifting the well leg, no traction whatever is exerted and the femur is forced upward by the involuntary spasm of the muscles, so long as that spasm remains present. Moreover, as that muscular spasm is the first symptom to appear and the last to disappear, it should be evident that in walking with the portative traction splint applied the diseased head of the femur is pushed into the diseased acetabulum, and then pulled out again, three thousand times an hour during all the long hours of the day, of the months and years of this most protracted disease.

The portative traction hip-splint was devised by one who believed that motion at the joint was desirable, and when used to exert traction during locomotion there can be no doubt that it does increase the vertical motion, even beyond that obtainable in a healthy joint. But with the question of motion in the treatment of hip disease I have nothing to do; that has been assigned to another. Only in passing I desire to call your attention to the fact that although the advocates of "motion without friction" obtained by the use of the "portative traction hip-splint" have been with us for over thirty years, they have not published the results of their treatment. Until they do this a serious discussion of the value of motion does not seem to be called for. As to the importance of removing the superincumbent weight from the diseased member, I think we are all agreed, although we may differ as to how it should be accomplished. The only point of interest would seem to be as to when a patient should and when he should not be confined to the recumbent posture. My own feeling is that, so long as the general health remains good, so long as pain continues, and so long as involuntary muscular spasm is increased by locomotion, the patient should be confined to the horizontal position. I admit that it is more important to save life than to give a perfect leg; but I must ask you also to admit that it is better to gain a perfect leg than to give pleasure to a child.

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* Read before the American Orthopædic Association at its third annual meeting, Boston, September 18, 1889.

The subject, then, is narrowed down to fixation and traction. If traction is to be used at all, it should be constant and uninterrupted, and in one and the same line. Traction at a right line at one time and at a right angle at another, as is permitted by most forms of traction apparatus, can not be free from harm; and the push-and-pull action of all traction hip-splints during locomotion must be seriously condemned. Splints, to be sure, have been devised to the end of eliminating this pumping action at the joint, but, since they are neither used by their authors nor by any one else, their merit does not call for consideration.

As to the value of fixation, we are pretty nearly a unit. The old "American method" of motion without friction has passed away—*requiescat in pace*—and a new American school has arisen. We are members of that school. We believe in fixation first, last, and all the time. We believe in traction, too, while there is pain from involuntary muscular spasm—traction with the patient in the recumbent position—traction constant and uninterrupted. But traction during locomotion as given by the traction hip-splint? That is a question that will bear some further discussion.

An inquiry into the results of any plan of treatment should, at the least, consider the mortality; the duration of treatment; the general health during treatment; and, bearing directly upon this, the length of time patients are confined to bed; the frequency of abscesses which go on to operative interference or spontaneous opening; the ultimate condition of the limb as to usefulness; the amount of actual shortening—*i. e.*, shortening due to erosion, displacement, and arrest of growth; the amount of apparent shortening—*i. e.*, the actual shortening plus the shortening dependent upon flexion and adduction; and, finally, the degree of motion at the joint.

To get a standard by which to measure the results of mechanical treatment, let us take the cases reported by Dr. V. P. Gibney (Medical Record, March 2, 1878, p. 174), that had been under observation at the Hospital for the Ruptured and Crippled, but had not had any treatment by operation or mechanical appliance. Of 288 patients, 4·5 per cent. died from exhaustion; 4·5 per cent. from amyloid degeneration; 1·75 per cent. from tubercular meningitis; 1·75 per cent. from other diseases. Out of 80 cured, in 23 the disease ran its course in three years; in 28, in three to six years; in 16, six to ten years; in 1 it ran its course in fifteen years; 69 were in good general condition, and 11 in fair general condition during the course of the disease. The time spent in bed is not stated, but it may be assumed that when the pain was severe and the joint tenderness great they remained in bed, and at other times were allowed to go about; 48 had abscesses, which presumably went on to simple puncture or spontaneous rupture; 31 had no abscesses; 61 could walk and run well without discomfort, although there might be a marked limp; 12 could walk short distances without assistance, but in walking long distances a stick and sometimes a crutch was required; 7 could not walk well without the aid of a high shoe or crutch. As to shortening (not stated as to whether apparent or actual), 1 had none; 2 had half an inch; 24 had one inch; 17 had one inch and a half; 19 had two inches; 7 had two inches and a half; 7 had three inches; 2 had four inches. As to flexion, in 2 the thigh was flexed to 90° with the body; in 3, to 110°; in 3, to 120°; in 19, to 135°, which militated but little against good locomotion; in 19, to 145°; in 18, to 150°; in 11, to 160° to 170°; in 4, no estimate was made. The degree of adduction is not stated. As to motion, 2 (at least) had ankylosis and 12 had motion from 15° to 90°.

M. Cazin, in a paper on the benefit of residence at the sea-side, read before the Société de chirurgie (Med. Times and Gaz., May 20, 1876) reports on 212 cases, taken from the most unfavorable class of these cases to be found in the Paris hospitals. Eighty of the cases were in a state of suppuration. No surgical operation was performed, the treatment consisting only in keeping the limb immobilized by means of a silicate bandage or modification of Bonnet's splint. The results in the non-suppurating cases are not given; of the 80 suppurating cases, 54 were cured, 6 improved, 20 were considered incurable, and 10 died. In 5 of the 10 fatal cases albuminuria existed on admission, the others dying from pulmonary phthisis or from exhaustion produced by long suppuration.

Reliable statistics of any considerable number of cases treated by immobilization are wanting. Although Thomas's splint has now for some time been in pretty general use in England, but few patients have been treated by others than himself in a satisfactory way. Mr. Thomas's own cases have been in private practice, and records have been kept of only those showing some special point of interest. The records of his cases to which I have access give the time in bed from nine to fifty-two weeks, the average being twenty-two weeks; the duration of treatment, from twelve to thirty-six months, the average being twenty-one months. Abscesses are not infrequent, but I have no data on that point. He says that all patients that recover do so without flexion and without adduction. Shortening is present when there has been erosion and when the growth of the limb has been arrested by the disease. Ankylosis is only found when the inflammatory process has been exceptionally destructive. No one any longer maintains that the prolonged immobility to which he subjects his patients is in itself productive of ankylosis.

In order to show the results of prolonged immobilization in suppurative cases, Mr. Robert Jones exhibited upward of twenty patients before the Liverpool Medical Institute (Liverpool Medico-chirurgical Journal, July, 1888). Among these, nine had suffered from disease at the hip joint. They were as follows:

Case III.—Suppurative arthritis of hip; amyloid disease.—C. B., aged twelve. Duration, nine years; splint for eight years without interruption; aspiration thirty-five times; six sinuses into the joint; very good motion in the joint.

Case VI.—Suppurative arthritis of the hip, with fifteen sinuses leading into the joint; kidneys diseased for two years; hyperpyrexia for three years at short intervals; in splint for ten years; patient twenty-five years old; can walk six miles without being very tired; no deformity; shortening three fourths of an inch.

Case IX.—Suppurative arthritis of hip, with lordosis and tilted pelvis; eighteen months under treatment; two incisions made; correction of deformity; shortening scarcely half an inch, although apparent shortening when first seen was three inches.

Case X.—Arthritis of hip; splint taken off at meeting for first time after four years' uninterrupted confinement, to show that long-continued rest will not result in ankylosis; motion free.

Case XI.—Suppurative arthritis of hip; three abscesses into the joint; lardaceous disease and dropsy for twelve months; complete recovery with three fourths of an inch shortening.

Case XIII.—Suppurative hip disease in a baby cured after eighteen months' treatment, where only one aspiration proved necessary.

Case XV.—Suppurative arthritis of hip; six sinuses; duration of disease six years; four years in splint; albuminuria sixteen months; three fourths of an inch shortening; movement increasing.

Case XVII.—Hip disease seven years' standing in youth of seventeen. Two sinuses into joint; five years in splint; moderate motion, which is increasing; no deformity.

Case XX.—Suppurative hip joint; disease seven months' duration in a boy of ten; good recovery with motion.

Dr. A. B. Judson (Illustrated Medicine and Surgery, April, 1882, p. 45) recorded the results of the use of the Taylor splint in three similar cases. They are in brief as follows:

Case I.—Nine abscesses; at times during the treatment the health was bad; recovery; no adduction; slight flexion; one inch shortening; under treatment two years and five months. Useful limb resulted. Motion not stated, but ankylosis inferred.

Case II.—Six abscesses; general health at times bad; treated two years and seven months; result, useful limb; no adduction; motion practically abolished; moderate degree of flexion; half inch shortening.

Case III.—For many weeks constitutional disturbance was severe. Treatment consisted in the addition of axillary crutches to the Taylor splint for one year, then jointed splint without axillary crutches for three years. Result, useful limb; no adduction; motion practically abolished; moderate degree of flexion; half inch shortening.

These results are remarkably good, and, although there remained slight flexion in all, the results compare very favorably with those in Dr. Jones's cases.

Continuing a study of the results of the long traction splint, we may next consider Dr. Charles Fayette Taylor's cases. In the Boston Medical and Surgical Journal, March 6, 1879, p. 324, the results are given of 94 private cases of hip disease which were under personal observation and continuous treatment from the time the patients applied until they died or were cured, and whose present condition is now, or was very recently, a matter of personal knowledge. Of the 94 patients, 3 died—2 of the disease, and 1 was run over and killed. There were 24 with suppurating joints and discharging abscesses—nearly all in that condition when first applying. Of 24 with abscesses, 2 died, the same as above stated, and in 5 the discharge has not yet ceased. Deducting these 7, there remain 17 fully recovered, or 70 per cent. of the suppurating cases; 3 of the 17 who recovered have ankylosis, and 14 recovered with practicable joints—the majority with ample and some with perfect motion.

It seems hardly fair to compare this class of patients, who are able to have every advantage that can accrue to private patients of a wealthy class, with the dispensary poor reported on by Dr. Gibney. Still the comparison has some value.

Of an exactly similar class to Dr. Gibney's cases are those treated at the New York Orthopædic Dispensary. From 1877 to 1887 (according to the annual reports), 1,355 cases of hip disease were under treatment; 223 of the patients died, 367 were discharged cured, and 640 were otherwise discharged. For the other points of interest we have only a report from January 1, 1875, to December 31, 1882 (Newton M. Shaffer and Robert W. Lovett, on the Ultimate Results of the Mechanical Treatment of Hip-joint Disease, New York Medical Journal, May 21, 1887). During this period of seven years 908 cases (according to the annual reports) were treated, and 168 patients were discharged cured.*

When in the spring of 1886 the authors undertook to personally investigate and carefully record the ultimate results of these cases, but 51 could be traced. Of these, 4 patients had died and 6 more had had relapse.†

Two more patients were not seen and examined, but were reported to be in excellent health and doing well. Of the remaining 39 cases, 4 were under treatment two years; 4, two years and a half; 9, three years; 6, three years and a half; 8, four years; 2, four years and a half; 2, five years; 1, six years; 1, six years and a half; 1, seven years; 1, eight years—an average of forty-four months and a half.

The condition of the general health during treatment was not stated; nor the length of time that each was kept in bed. From personal knowledge, however, I may say that when a patient presented deformity of such a degree as to render walking difficult, or when the joint was so sensitive as to render walking painful, he was put in bed at home and visited by the outdoor visiting surgeon as often as seemed necessary, or he was placed in a bed in the hospital ward of the institution, or at St. Luke's Hospital, until the deformity was reduced and the painful condition subsided. During my term of service as outdoor visiting surgeon (October 15, 1884, to October 20, 1887) I treated in bed, at their homes, 161 patients of the institution suffering with hip disease. The average time that these cases were kept in bed was eleven weeks and five days. Of the patients suffering from hip disease at St. Luke's Hospital (generally more severe cases than those treated at home), during the same period there were 57, and the average time in bed was seventeen weeks and six days.

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* This number (168) is taken from the paper of Dr. Shaffer and Dr. Lovett. The annual reports do not give the number cured during 1875 and 1876, nor from October 1 to December 31, 1882.

† Two more cases, that were reported among the cured, relapsed and came under the writer's observation between the time of the completion of the statistics by Dr. Lovett and the reading of the paper by Dr. Shaffer.

Of the 39 patients, 27 had abscesses and 12 had none As to the ultimate usefulness of the limb, all were at their work and none with evidence of tubercular disease or serious incapacity arising from the condition for which they had been treated.

As to shortening, 2 had none; 2, half an inch; 10, one inch; 7, an inch and a half; 9, two inches; 5, two inches and a half; 1, three inches; 1, six inches—37 in all. This leaves 2 not reported.

The patient having six inches shortening had dislocation of the head of the femur, but had had no evidences of suppuration.

Fifteen patients had no flexion. In other cases the thigh was flexed at an angle of 120° to 155° with the horizontal plane of the body. It is proper to state here, however, that flexion at 135° by Dr. Shaffer's method of measurement usually becomes flexion at a right angle (90°) by Thomas's method. This I have demonstrated in a large number of cases.

As to adduction, but 24 cases are reported upon: In 13 it was slight or absent; in 8 it equaled 10° to 15°; and in 3 it was about 30°. In one case with slight flexion, but with adduction to 30°, a real shortening of an inch and a half became, for practical purposes of locomotion, a shortening of four inches.

As to motion: Three patients had perfectly free motion, 3 had 90° motion, 7 had 10° to 45° motion, 6 had slight motion, and 16 had no motion—35 in all. This leaves 4 not accounted for.

But one case is reported with superextension at the knee, and none with in-knee resulting from stretched ligaments, both conditions which I have frequently found in patients treated with the long traction splint. Pain and weakness at the ankle on the affected side were common, and inability to flex the foot beyond a right angle was present in 20 cases and absent in 13; the rest were not noted.

To recapitulate: Out of over 900 patients treated up to December 31, 1882, it was possible on May 21, 1887, to report among the cured but 2 with no shortening and but 3 with free motion at the joint; but 15 with no flexion, and but 13 in which adduction was slight or absent.

It has been my fortune to treat, or share in the treatment of, upward of 1,100 cases of hip disease with the long traction hip-splint,* and the convictions which I am about to express are founded upon a study of those cases, taken together with the statistics above quoted and others bearing in the same direction.

In conclusion, then, I would say that it does not appear to me that sufficient evidence has been presented to demonstrate that the results of the use of the traction hip-splint are any better than, or as good as, those obtained by any purely fixative apparatus; nor does it appear that the results are any better than those where the "expectant treatment" or no treatment has been employed; nor has it been shown that the use of the traction splint shortens the disease. On the other hand, the statistics quoted have shown that it does *not* prevent actual shortening from arrested growth, from erosion of bone, and from subluxation; that it does *not* prevent apparent shortening from flexion and adduction; and that it does *not* prevent stiffness at the joint. It has also been shown to *cause* in-knee and superextension at the knee by stretching the ligaments, and weakness and talipes equinus at the ankle.

The most often repeated, if not the only, charges made by the tractionists against pure fixation (without traction) is that it does not so quickly relieve the pain—a point yet not proved, and that it favors actual shortening from erosion of bone. The statement that pure fixation removes apparent shortening by preventing flexion and adduction they do not object to. And the statement that fixation does not induce ankylosis in a tubercular joint is no longer questioned.

Routine treatment of any kind should be condemned, whether it be traction or fixation, or simply making the leg a pendent member, or waiting for Nature's cure. Each case should be treated on its merits, and its indications should be followed in so far as the surrounding circumstances and the means at hand will permit. As Dr. Charles Fayette Taylor once so aptly said: "It is absurd to speak of an instrument for hip disease. There can be no one complete instrument for hip disease."

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A REFORM IN ARTIFICIAL INFANT-FEEDING,

WITH AN IMPROVED AND INEXPENSIVE STERILIZER AND NURSING-BOTTLES.*

By A. SEIBERT, M. D.,

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All food entering the body above its physiological quantities is useless for nutrition, a hindrance to digestion, and a danger to health. This fact, known to the medical men of all countries, so important to the welfare of all, and particularly to that of the bottle-fed babies, has been disregarded to such an extent that it really seems surprising to find that, while animated discussions have been carried on for decades in medical journals and text-books regarding the proportion of milk and gruel, casein, sugar, and fat, and nearly every authority has given to the world his own proportions, not until lately have any of them thought it important enough to give precise data concerning the quantity of food to be taken. Gerhardt (in his text-book on Diseases of Children, 1887) does not even mention the word quantity in his chapter on nutrition. Jacobi (in his book on Intestinal Diseases of Infancy and Childhood, 1887) makes the following statements concerning the quantity of food to be given to infants: "Practically it is not very difficult to regulate the quantity of nourishment taken. *Healthy children will fix the proper limit themselves.* The same rule will apply, with slight differences, in an equally good condition of health, for the nourishment artificially prepared. But it is impossible to lay down as a uniform rule that some particular quantity must be considered as normal for all children." "*The child ought to drink from the breast or bottle until it has had enough.*"

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* These comprise cases from the New York Orthopædic Dispensary during a service of nearly seven years as assistant, senior assistant, and outdoor visiting surgeon; from St. Luke's Hospital during a service of nearly eight years as assistant and attending orthopædic surgeon; from the dispensary and clinic of the Medical Department of the University of the City of New York as attending surgeon and instructor in orthopædic surgery during a period of five years; from the Department for the Outdoor Poor at Bellevue Hospital during a service of two years as attending surgeon to the First Orthopædic Division; from the Vanderbilt Clinic during a service of nine months as assistant surgeon; from the private practice of Dr. N. M. Shaffer, Dr. S. Ketch, Dr. T. L. Stedman, Dr. L. W. Hubbard, Dr. R. P. O'Neill, Dr. William H. Sherman, Dr. R. F. Burke, Dr. Thomas Kelly, and myself.

* Read before the New York Academy of Medicine, January 23, 1890.

This state of affairs has left a wide field for every practitioner, midwife, and mother to individualize, and the result has been that, almost without exception, every artificially fed infant has been overfed. The ordinary nursing-bottle contains six or eight ounces at least, and this quantity was and is still given to the new-born as well as to the three-months-old baby, and when the youngster begins to regurgitate food, becomes dyspeptic and constipated and even loses flesh, the comparative merits of the proportion of fat, sugar, and casein are considered and the different methods of the authors are tried, one after the other. At last some patent food is resorted to, and, as the weak stomach finds it less laborious to overcome the large quantity of this pseudo-food than that of diluted milk, the mother and the doctor are once more convinced that this patent food has saved the life of the baby.

Biedert (in the ninth edition of Vogel's text-book, 1887) makes this statement: "The amount of food regulates itself so that food is never given oftener than every two hours; and if the child keeps quiet, wait still longer, and give less if the child vomits, and more if it shows ravenous hunger."

Escherich was the first to call attention to this deficiency in precise regulations as to the quantities in infant-feeding. In a table arranged to correspond with the tables and figures of Pfeiffer (Wiesbaden), who determined the quantities of milk taken by nursing infants by weighing his own baby before and after nursing during a whole year, Escherich gives precise figures as to quantity and proportionate dilution of the milk according to the *age* of the children. His volumetric method of artificial infant-feeding (Wien. klin. Woch., No. 40, 1889) is certainly an improvement, and if the bottles devised by him, showing the exact amounts and proportions of milk and water, would be used as he has directed, not alone according to the months but even the weeks of life the child has existed, no doubt many little ones would be all the better off for it. But his method is an ideal one, and therefore deals with ideal mothers who will put just so much food in the bottle large enough to hold much more, no matter how much their offspring clamor for more, and will never think that "a child ought to know best when it has had enough," and never act accordingly; and he deals with ideal children, all of one size and one weight, who always gain in flesh and in proportions of stomach-capacity according to the rules laid down in Gerhardt's text-book on Diseases of Children, Vierordt's Physiology, and Pfeiffer's tables, never varying in the least.

But mothers *will* give their infants more food without hesitation if they only notice that the youngster keeps on sucking its finger after the bottle is empty, and especially if a large bottle is given them to feed with; and the infants will *not* invariably increase their digestive power and the capacity of their stomachs according to text-books and tables; they will even be born with different-sized stomachs, and will not gain in flesh and weight, as Escherich seems to believe, but will arrange that entirely according to circumstances coming up during these first twelve months of life—circumstances that either promote or retard the digestive ability, size of the stomach, and the weight of the child. Only one thing really does keep on increasing steadily, and that is the age of the infant. Escherich makes the same error that Fleischmann and Ahlfeld committed when both weighed children of the same age to determine the amount of food taken by them. Their results were far from even, which led Jacobi (Intest. Diseases, p. 86) to the following sarcasm: "Can there be anything more exact? Both forget that the nursing, which occupies a child fifteen to thirty minutes, represents no invariable quantity, and that the whole quantity can not be found at any time entirely in the stomach."

In venturing to answer this question of the father of modern infant-feeding I hope not to be deemed impertinent when I say that there is something more exact, and these experimenters did not succeed, and could not succeed, because they weighed out the stomach capacity of babies of one age and not of one *size* and *weight!* This is not exact and never will be, *for the weight and size of infants of the same age vary as do their faces, and hence necessarily the capacity of their stomachs also.*

For the last two years I have paid more attention to the stomach capacity and digestive power of infants than formerly, and, seeing large numbers of children run down by disease, retarded in growth by improper food and feeding, or naturally small by heredity, and, on the other hand, children above the usual size and weight and yet of one age, it naturally occurred to me that it would be entirely improper to regulate their food so as to give them all the same quantity. And so I took to weighing these infants, and was at first astonished to find them vary so much in weight. Thus, it has been nothing unusual to see two infants in the same hour at my clinic corresponding in age and varying in weight so as to show the one to have fourteen and the other but seven pounds of body-weight. The second conclusion I came to, after having weighed a greater number of infants, was that it was quite easy to determine the bulk of food a child could take, or, better, ought to take. The success of arranging the feeding in this manner was very gratifying, and so gradually I was able to arrange a table in my mind similar to the one you have in your hand, which has since guided me in determining the quantity and composition of food. Since October, 1888, I have frequently written out this table on the blackboard in the Children's Department of the New York Polyclinic for the benefit of my class; so in reality this is not a new method with me.

The weight, not the age, of the infant determines its food properly.

Child's weight in pounds.	Number of bottles.	Size of bottle.	AMOUNT			TIME OF FEEDING.			
			Of milk.	Of gruel.	Of sugar.	How often.	In twenty-four hours.	From 6 A. M. to 6 P. M.	From 6 P. M. to 6 A. M.
6, 7, and 8.	I.	3 ounces.	1 ounce, or 2 tablespoonfuls.	2 ounces, or 4 tablespoonfuls.	½ teaspoonful.	1 bottleful every 2 hours.	8 bottles.	6 bottles.	2 bottles.
9 and 10.	II.	4 ounces.	1½ ounce, or 3 tablespoonfuls.	2½ ounces, or 5 tablespoonfuls.	½ teaspoonful.	1 bottleful every 2 hours.	8 bottles.	6 bottles.	2 bottles.
11, 12, 13, and 14.	III.	5 ounces.	2½ ounces, or 5 tablespoonfuls.	2½ ounces, or 5 tablespoonfuls.	¾ teaspoonful.	1 bottleful every 2½ hours.	7 bottles.	5 bottles.	2 bottles.
15 and 16.	IV.	6 ounces.	3½ ounces, or 7 tablespoonfuls.	2½ ounces, or 5 tablespoonfuls.	¾ teaspoonful.	1 bottleful every 2½ hours.	7 bottles.	5 bottles.	2 bottles.
17 and 18.	V.	7 ounces.	5 ounces, or 10 tablespoonfuls.	2 ounces, or 4 tablespoonfuls.	1 teaspoonful.	1 bottleful every 3 hours.	6 bottles.	5 bottles.	1 bottle.
19 and 20.	VI.	8 ounces.	All milk and 1 teaspoonful of sugar.			1 bottleful every 3 hours.	6 bottles.	5 bottles.	1 bottle.

Weigh the naked baby, and then determine its food by this table.

Directions for Steaming.—Fill the bottles up to the mark with pure, fresh bottled cow's milk, obtained from a milkman and not from a store, early in the morning, and above the mark with barley or oatmeal gruel, or plain, fresh water. Then add sugar. After filling the bottles as directed, place them in the tray; then put rubber corks on them, so as to leave a *small opening at the side of the cork;* then put two to three teacupfuls of water in any clean pot ten inches wide and eight inches high, place the tray in it, cover it with the lid, and place it over a strong fire. In *cool* weather (November 1st to May 1st) steam fully *30 minutes*, in *warm* weather (May 1st to November 1st) steam the bottles *fully 45 minutes*. During steaming the lid of the pot remains closed. Then remove the pot from the fire, uncover it, and *turn corks tight into* the bottles. *Never* open a bottle until feeding-time. Bottles are best kept in a cool, dry place.

Directions for warming a Bottle at Feeding-time.—Pour four tablespoonfuls of water in an ordinary tin quart measure; then put the neck of the closed bottle through a round piece of pasteboard or paper, big enough to cover the opening of the tin; then hang the bottle in the wooden fork, and place the latter over the opening so that the bottle hangs in the tin and the paper covers the latter. Loosen the cork, place the tin on the stove, and steam for two minutes; then remove the cork and put the nipple on the bottle.

Caution.—Never put bottles in the water on the bottom of the tin, as they will crack instantly.

It would have hardly occurred to me that others did not, to an extent at least, work in the same direction, had it not been for one of the latest articles of Escherich (Wien. klin. Woch., No. 40, 1889), in which he pleads for reform in artificial infant-feeding in reference to the amount of food. As mentioned before, he adheres to the method of feeding according to the *age* of the children. Escherich does not even mention the fact that the capacity of the infantile stomach varies very considerably in children of the same age. On a closer inspection of recent writings on infant-feeding, I found that Biedert (in Vogel's text-book, 1887) remarks: "In case the digestion is very easily disturbed, a more exact regulation of diet would be necessary, so as to give two hundred cubic centimetres of properly diluted milk to every kilo of the child's weight." Rotch, in the August number of the Archives of Pædiatrics, 1889, thus calls attention to the different sizes of infantile stomachs: "Of the different causes which regulate the gastric capacity, the *weight* of the infant has the greatest influence, and it is perfectly possible for a poorly developed infant of small weight to have a gastric capacity no greater than a normally developed infant of half the age."

These few remarks made by Biedert and Rotch are all I could find bearing directly on our subject. The determination of the bulk of food by weighing infants before and after nursing was practiced long ago, but no one has been so exact as Pfeiffer, of Wiesbaden (Jahrb. f. Kinderheilk.), with his own child. But in arranging our table we could not go by this one case, as it was that of a healthy child of medium weight. The figures I present in this table are the result of careful notes on about two hundred different children. The manner of obtaining the figures was simple enough. After weighing the child, the composition and bulk of food was ordered, the latter usually being considerably smaller than before. If regurgitation of food, constipation, and dilatation of the stomach and the intestines, with restlessness at night and occasional wind-colic, would not disappear, then the bulk and strength of the food were diminished still more, until the apparent normal boundary line was reached. This was done in all cases. The increase in the food was not ordered until increase in weight had previously indicated it. Whenever the bulk and strength of the milk mixture was increased too rapidly, the infant would invariably indicate this by regurgitating the superfluous amount.

Handled in this manner, I have often had the pleasure of seeing infants get well and thrive on three ounces of food that had heretofore been stuffed and starved with five ounces of diluted milk, sterilized and often peptonized in the most approved style. I am at a loss to see why the dilatation of the stomach in infants, which indicates the true condition of affairs in every case as distinctly as the Indian figure shows the cigar-store and the red-white-and-blue pole the shop of the hair-cutter, has been, is, and probably will be for some time to come, overlooked by the medical attendant. No doubt Escherich is right when he makes the statement that insufficient training of medical students regarding even the very fundamental principles of pædiatrics has been the chief cause of the slow progress of this branch of medicine, and the skeptic and conservative feeling among general practitioners regarding anything new, and, in particular, any tables and charts.

My figures do not alone pertain to healthy but also to convalescent children. If an infant ten months old has been reduced to seven pounds by ailments of any kind, but three ounces of food at the utmost are indicated. If you give more, that baby will vomit, and, at best, not pick up nearly so quick as if handled properly.

On the other hand, a child weighing ten pounds at birth ought to have more and stronger food than one weighing three to four pounds less. The talk about some children of the same size eating more than others is but talk. It takes no more food in one body to keep up the same functions than in another, *provided these bodies are of the same size and do the same amount of work.* Infants do about the same amount of work, so their weight is the only guide left.

I have nothing more to add regarding this method of determining the amount and composition of food for artificially fed children. It is only a new method in detailing and specifying what the most conscientious authorities in pædiatrics have long ago emphasized, and over and over again urged upon the minds of medical men. No doubt my table is deficient, and others will sooner or later make changes, and necessarily it will in each case be left to the physician to individualize; but, on the whole, I do think that this reducing artificial infant-feeding to "facts and figures" will prove a step in the right direction (as Dr. A. Jacobi has been kind enough to call it), and may serve as a practical medium in impressing physicians and parents with the important necessity of not giving infants more food than their stomachs will hold, and of only giving such mixtures as can be digested and assimilated with ease and benefit.

To practically carry out this idea, I deemed it necessary to at first do away with all of the nursing-bottles now in use including not alone the well-known flat arrangement, with the long rubber tube, invented only for promoting the laziness of mothers, but also the Soxhlet bottle, which is entirely too large for the new-born and entirely too small for children weighing more than fourteen pounds. Escherich had this same notion exactly at the same time (his article on his new apparatus arriving here while my sample bottles were being made), but he designed large nursing-bottles, graduated by marks. For reasons given before, I did not deem it wise to furnish mothers with larger-sized bottles than the size and weight of their offspring indicates, and therefore I designed *six different sizes of bottles*, ranging from three to eight ounces.

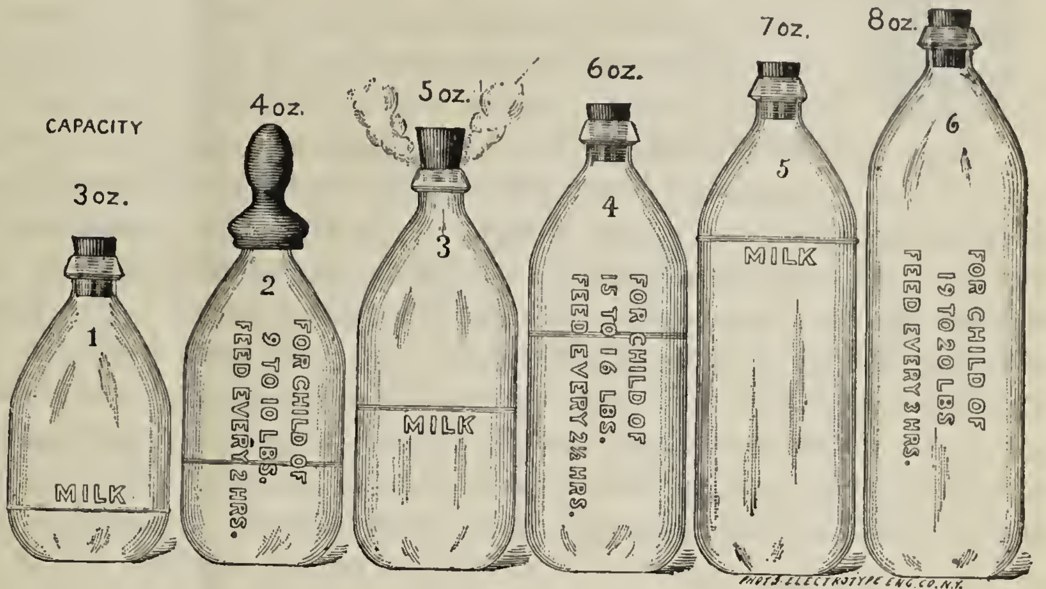
CAPACITY
3oz.
4oz.
5oz.
6oz.
7oz.
8oz.
1
2
3
4
5
6
MILK
FOR CHILD OF 9 TO 10 LBS. FEED EVERY 2 HRS.
MILK
FOR CHILD OF 15 TO 16 LBS. FEED EVERY 2½ HRS.
MILK
FOR CHILD OF 19 TO 20 LBS. FEED EVERY 3 HRS.
PHOTO-ELECTROTYPE ENG. CO. N.Y.

Fig. 1.

Following up the idea of not leaving any part of this feeding method to the judgment of mothers and nurses, I had the bottles properly marked so as to show on the one side the precise mark up to which milk should be filled in, and the word "milk" impressed below this mark. This simple arrangement permits the omission of first pouring the milk into measures, as designed by Soxhlet and Escherich, or of using a tablespoon of doubtful cleanliness. On the other side of the bottles the direction will be found: For child weighing (so and so many) pounds.

These specifications may seem unnecessary to some, but I believe that when Goethe in his Faust made the remark, "For all that you have *black on white*, contentedly may carry home," he once more proved himself to be one of the best judges of human nature. If a proper-sized bottle is placed in the hands of a mother, if the exact amount of milk and gruel is marked and written upon that bottle, and, besides, that it must only be used for a child of a certain size or weight, the chances are that this mother will more readily follow these directions than if they were not there "black on white," warning her constantly not to disobey this written rule.

My next object in view necessarily was to design the bottles so that they could be easily cleaned. This was simple enough. I merely did away with the long neck, so that with a pencil, for instance, we may easily touch any part of the interior of the bottles. The neck I had so constructed as to leave not a particle of space between the cork and its glass surrounding, a decided deficiency in the Soxhlet bottle, which leaves a furrow of sufficient size to retain a portion of the milk, which, after sterilizing, must invariably decompose later in the day, especially in warm weather, and while the child is drinking must necessarily reinfect the milk, passing over it before it enters the mouth and stomach of the infant.

The question of a proper and cheap way of closing the sterilized bottles had, up to date, not been solved, as Escherich wrote but a few weeks ago. The stopper designed by me answers all purposes well. It is simple, practical, and cheap. The furrow in its lower third allows the steam to escape during the process of sterilizing, and by a simple turn the bottle is closed air-tight. This is not alone an improvement on the Soxhlet corks on account of being less expensive, but because the aseptic condition of the food is more perfect, as after boiling twenty minutes no glass stoppers are put into the bottle, which, handled by the unclean hands of the mother, are brought in direct contact with the food again, thus creating a possible danger for reinfecting the food and harming the child. The ten minutes of further boiling after the glass stoppers are pressed in (during which time they often fly out and fall on the stove or even the floor) is too short a time to kill any germs that undoubtedly have entered the bottle, as Hüppe (Arbeiten aus dem Reichsgesundheitsamt) showed as early as 1884.

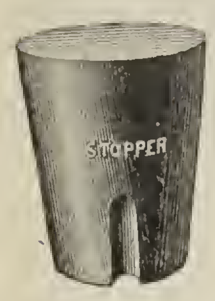

Fig. 2.

The tray I designed holds the bottles in position and permits the steam to surround them at all sides during the process of sterilization. This tray is so constructed as to be movable and to be fitted for all sizes of these bottles. The holes in its lower part are so constructed that the steam courses up directly in close proximity to each bottle, but its chief virtue lies in the fact that it may be placed in any ordinary pot used for cooking in every household, thus again doing away with a greater expense and another object for care and work for the mother.

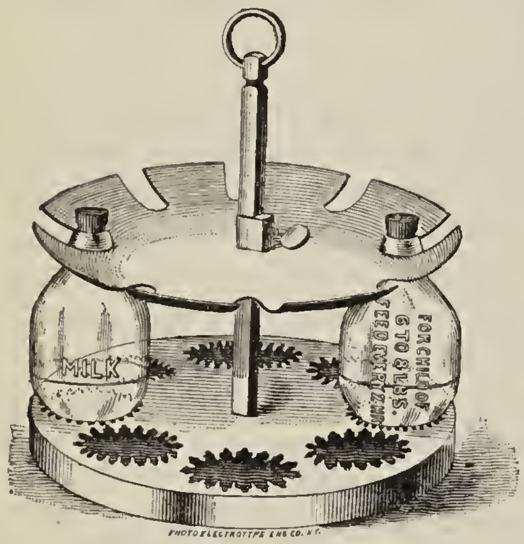

Fig. 3.

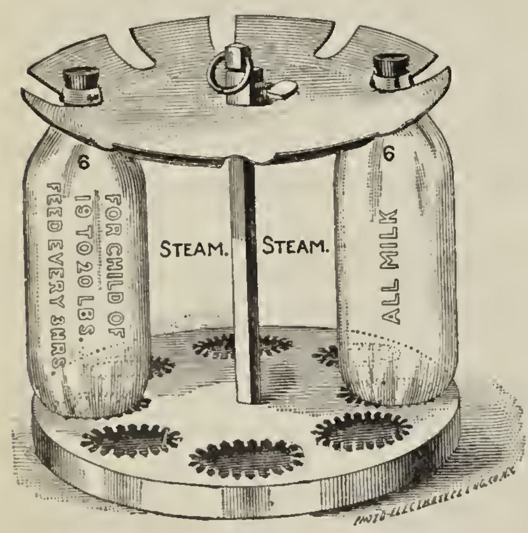

Fig. 4.

My method of sterilizing is the following: After the bottles are properly filled the rubber stoppers (which fit all sizes) are put into the openings so as to leave the upper end of the furrows or gutters just above the rim of the bottle, allowing steam to escape. Then two cupfuls of water are put into the pot (or the Soxhlet tin pail or the Arnold cooker), the lid is placed on the pot, and the latter placed over a brisk fire. Within five minutes steam appears under the lid of the pot, and, counting from its appearance, the pot is left in position thirty minutes (in cool weather, from November 1st to May 1st). The pot is then removed, the tray is taken from the pot, and the corks are turned tightly into the bottles, and the food is safely sterilized.

Hüppe, in 1884, showed that steam-sterilizing was far more effective than that done by boiling in water.

My tests I made with milk thus handled proved this to be correct. In warm weather (from May 1st to November 1st) I deem it necessary to steam fully forty-five minutes, as the milk brought then to the houses of city people is in a far more advanced stage of decomposition than in winter time. (See my Report on Cholera Infantum and the Weather, Med. Record, March 24, 1888.) To do this it is necessary to use three instead of two cupfuls of water for steaming.

The warming of the bottles is also done by steaming. A circular piece of wood or pasteboard, large enough to cover any ordinary tin pint or quart measure (as used in every household), is cut in so as to have an opening wide enough to admit the neck of the bottle to the center of the board, so the bottle is suspended in the tin hanging over the water. A small quantity of water is put in the tin, this placed on the gas, oil, or ordinary stove, and in exactly a minute and a half the bottle is warm enough for drinking. Any one who, like myself, has had any personal experience in getting up at night and "warming the bottle for the baby," will appreciate this simple device, for it takes fully fifteen minutes to do this according to Soxhlet's method. But this steaming is not alone safer for the food and child, but also safer for the bottles, as there is no chance at all for cracking them by placing them suddenly into hot water, as so far has always been done by cooks, nurses, and mothers to accelerate the proceedings.

It is my plan to have all druggists in the populous districts sell this apparatus, and to have them weigh the children for the inhabitants of the tenements, and accordingly to determine the exact size of bottles needed in each case. The arrangement is made that the druggists will take back the smaller bottles and give the next size when indicated, with an additional charge of about twenty-five cents.

This brings us to the price of this apparatus. With a written sigh, Escherich exclaims in his last article that the Soxhlet apparatus is too expensive, and therefore does not reach those that need it most—the poorer classes. My apparatus—which in every respect but in the fundamental principle of sterilizing in bottles is new and decidedly more exact and less troublesome to handle—has been devised for the special purpose of becoming the infant-feeder for the laboring classes, among whom infant mortality in summer time has baffled the skill of medical men and health authorities for ages back.

It is Soxhlet's idea to sterilize milk in small bottles for infant-feeding, and his apparatus has done much good in preventing infants getting sick and dying of milk-poisoning; but it costs five dollars, and therefore is entirely too expensive for the working classes, not to speak of the outlay of frequently buying new bottles to replace those cracked during boiling in the water-bath. It is patented in Germany, and has been imitated and is sold at the same figure here, though nothing is paid to the patentee.

Escherich's improved sterilizer has been spoken of, and will be hardly less expensive. His bottles are large and graded by lines, and, to my mind, can hardly be used with success by any but very careful mothers. He closes his bottles with the nipples or with cotton (not absorbent)—a manner unfit for practical and ordinary handling.

The Arnold cooker leaves the choice of bottles to the mother, and in that respect must be called a backward step, though the steaming is an improvement.

The six-ounce bottles, filled with sterilized milk, that have lately been brought in the market here, are entirely too large for infants and ought not to be used for infant-feeding, aside from the fact that their price would only suit very rich people, who pay $1.20 each day for this food.

Following the advice of Professor A. Jacobi and Professor J. Lewis Smith, who have both been kind enough to inspect my sample apparatus, the firm of Eimer & Amend (corner of Eighteenth Street and Third Avenue) have cut down the price of my apparatus, so that it can be retailed all over the land at $1. It includes the tray, eight bottles with stoppers, and two nipples.

It is not patented and will not be patented, and if imitated abroad, as I sincerely hope it will be, it will push its way, naked and pure, for what it is worth, as a present to the children of the poor man all over the world, from a member of the New York Academy of Medicine, which deems it improper to patent articles used for the prevention and cure of disease.

WHAT ARE THE RATIONAL LIMITATIONS OF INTRA-UTERINE THERAPEUTICS?*

By ANDREW F. CURRIER, M.D.

It seems scarcely credible that the opinions and practice of gynæcologists should differ so widely as to the propriety and utility of invading the cavity of the uterus for therapeutic purposes; for it is the difference between the very small number who do not enter it at all and hence, virtually at least, deny the existence of diseased conditions of the uterine mucous membrane which are amenable to local treatment, and those who enter it with the same freedom with which they would enter any of the accessible cavities of the body. Now the situation and structure and functions of the uterus are such as to suggest the minimum of interference, and yet experience amply proves the great advantages to be derived from interference in certain conditions. This is not a matter of opinion but of demonstration. The uterus is so divided at the os internum as to consist practically of two distinct organs. Obstetricians have long recognized this fact, and also the protective influence exercised by the cervix upon the body of the uterus in the pregnant state. Bennett, in his scheme of uterine pathology, considers the cervix of such importance that he traces most varieties of uterine disease to disturbance in its structure. As Johnstone has said (Trans. of the Am. Gyn. Soc., xii, 275), it has a different blood supply, a different nerve supply, a difference in the direction and quality of its muscular fibers, and a radical difference in the structure of its mucous membrane; in fact, the two parts of the uterus have entirely separate functions. It would therefore seem rational to consider separately the therapeutics of the cervix and that of the body of the uterus. This involves a preliminary consideration of the pathology of each. The mucous membrane of the cervix uteri is compared by Johnstone (*loc. cit.*) with that of the air passages, containing as it does dense layers of ciliated columnar epithelium which lie upon loose areolar tissue, and in which great numbers of mucous glands are imbedded. It is not without nerve filaments, for it is often acutely sensitive, and it is subject to frequent physiological vascular engorgements, its arteries and veins being thick and large and forming a kind of erectile tissue. The diseases to which it is subject are well known, and some of them have been carefully studied for many years.

For our present purpose they may be divided into conditions which are the result of simple (*i. e.*, non-traumatic) congestion, of traumatism, of infection, and of malignant degeneration. There is perhaps no condition which is more common than that which results from congestion of the cervical mucous membrane, so-called catarrhal cervical endometritis, in which the cylindrical epithelium is cast off in abundance, and the glands secrete an increased quantity of mucus. When the process is acute, leucocytes in greater or less abundance from the vessels are added and the secretion becomes more or less purulent. This hypersecretion may be so excessive as to be not merely an annoyance from constant soiling of the person and the clothing, but even debilitating, and not infrequently the cause of the most intense pruritus of the skin surrounding the external genitals. These possibilities give an importance to the disease which forbids us to regard it as insignificant. The congestion in these cases may be attributable to obstruction to or sudden checking of the menstrual flow from a great variety of causes, to frequent coitus (prostitutes almost invariably suffer with the disease), to prolonged general anæmia, etc. The disease is very common in anæmic girls and in anæmic old women, being due in both classes of cases to local vascular derangements. Cysts of the cervical glands and polypi of the mucous membrane may be the product of congestion. So, too, in deformities of the vaginal portion of the cervix, in which it is indurated, conical, or undeveloped, the canal being narrow or tortuous, congestion is often an important element in producing important changes of a morbid character.

Traumatism is the source of endometritis of varying degrees of intensity, especially the traumatisms which are incidental to parturition. Whatever be the form of the injury, if the cervical mucous membrane is exposed it is subjected to constant irritation, and a granulation tissue is frequently developed which shows the ordinary characteristics of chronic inflammation. Traumatisms in connection with surgical operations upon the cervix which are inefficiently or unskillfully performed, and which do not heal properly, frequently exaggerate a pre-existing condition of endometrial inflammation. The endometritis of infectious origin is of very common occurrence. Most common perhaps is that which is associated with gonorrhœa. Infection from the bacillus of tuberculosis may also take place, and the endometritis of puerperal fever is attributable to infection from the *Streptococcus pyogenes.* It has also been asserted that there may be infection from the specific germs of typhoid fever, diphtheria, and the eruptive fevers, though I am not aware of any absolutely convincing studies which have been made in this direction. In malignant disease of the cervical mucous membrane extensive changes in the epithelial and glandular structures take place. The mucous membrane is first infiltrated and then breaks down, the tissue being destroyed and ulcerative conditions resulting. The areas of tissue contiguous to those which have already been invaded may undergo irritation in their epithelial and glandular elements which may be regarded as a kind of infection premonitory of the condition which is to follow. In all these conditions there is little dispute as to the propriety of therapeutic measures, provided one believes in the propriety of local therapeutic measures for uterine disease in any case. It may be well, however, to regard the following rational precautions before instituting any plan of treatment, whether simple or extensive :

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

I. When menstruation is imminent or present, treatment should be withheld. An exception to this rule would obtain should the flow be very profuse or protracted.

II. In the presence of an acute inflammatory process intra-uterine treatment should be withheld. For example, in the acute stage of gonorrhœa or with acute peritonitis this rule should be observed.

III. In malignant disease of the cervix the possibility of severe hæmorrhage attending local treatment of whatever character must be anticipated and provided for.

IV. In all cases the risk of inflammatory reaction in the pelvic structures remote from the cervix must be taken into consideration.

With these precautions in view one may consider the following category of cases in the order of their severity :

1. Those which are suitable for local applications of an astringent or caustic character, including electricity.
2. Those which are suitable for the dull or sharp curette.
3. Those which are suitable for plastic operations.
4. Those which are suitable for extensive removal of tissue.

The first class of cases will include the catarrhs which are without serious symptoms. In many of them there is no need of local treatment other than the systematic use of vaginal douches, and it must not be overlooked in any of them that there may be a constitutional cause which is the original source of the local trouble. It may be added by way of parenthesis that vaginal douches should constitute a feature of the toilet of every woman, though, of course, specific directions are appropriate for each case. If the glandular secretion is very profuse, various solutions may be of use to coagulate it and to stimulate the glands to more healthy action. A powerful solution is preferable, and I do not remember to have ever seen harm result when the application was limited to the diseased cervical mucous membrane. Solutions of persulphate of iron, nitrate of silver, iodine, carbolic acid, antipyrine, and even nitric acid, chromic acid, and chloride of zinc, may all be used with advantage in quite a concentrated form. Such applications repeated every two days will soon correct the diseased conditions, though they may not produce a radical cure. The same end may be obtained by a few applications of a galvanic current of low tension, the positive electrode being introduced within the cervical canal. In the exaggerated conditions of chronic endometritis great satisfaction may be derived from the use of the curette—the dull curette for the less severe and the sharp one for the more severe cases. It is surprising to see how great a quantity of retained secretions can sometimes be scraped out of the cervical canal, and also the promptness with which contraction of the tissues and a normal condition of secretion supervenes. For infectious endometritis, more particularly the gonorrhœal variety, the indication is, of course, to use a germicide, and in the treatment of a great many cases I have never found anything which would equal the nitrate of silver. I use it habitually with the utmost satisfaction in a watery solution containing sixty grains to the ounce.

If the cervical mucous membrane is extensively exposed —in other words, if ectropion exists—the application of astringents or caustics, or even the use of the curette, is but palliative; it is better to excise the entire mucous membrane after Schröder's method, or do a modified amputation of the cervix according to Hegar's method, or perform Emmet's operation of trachelorrhaphy.

In the cases of malignant disease of the cervical mucous membrane it often happens that extensive scraping with the sharp curette is all that can be done, on account of the extent and severity of the disease. If the disease is still in an early stage, a radical operation should be performed, and it is logical to believe that with a morbid condition which develops as does cancer, the more tissue removed the greater the probability of passing beyond its utmost limits—that is, extirpation of the entire organ would seem to be a rational procedure in all cases in which it is feasible. It must be admitted that the ultimate results of this operation have not been as favorable as was hoped. Cysts and polypi should be removed in accordance with customary rules of surgical procedure in such cases, and this applies alike to polypi developed from mucous membrane and those which are composed of fibrous tissue.

The utility of dilatation may be considered beyond the limits of discussion, but it is very questionable whether the free use of the powerful and dangerous instruments which are now so much in vogue indicates a healthy medical opinion. Without stopping to mention in detail the dangers attending the use of such instruments in inexperienced hands, I would advise those who are general practitioners neither to use nor to possess them until they have thoroughly familiarized themselves with the resisting power of the uterine muscle by the use of the graduated uterine bougies. I can not recall a case in which it has not been possible to obtain all the dilatation which is requisite by the use of these less dangerous instruments.

The os internum forms a natural barrier to the cavity of the body of the womb. It is the innermost portal of the sanctuary, for what portion of this human "temple" can be more sacred than that in which are developed the beginnings of life? It is the limit beyond which, in many cases, neither germs vital nor morbid ever pass. It has a sphincteric action, which is manifest enough at times when one endeavors to penetrate it with a probe or sound, the sphincter being formed by the Z-shaped fibers of Sappey, which are longitudinal in the cervix and transverse at the os externum and the os internum. It has also several fasciculi of longitudinal fibers in the anterior and posterior walls of the cervix, which have been described by Désormeaux and Jacquemier (see Nouv. arch d'obst. et de gyn., May, 1889, p. 214). This knowledge of the structural anatomy is important, because it explains the resistance which is often encountered when the uterus is sounded. Its extreme sensitiveness in nulliparous women, and the extensive radiation of pain which may follow its irritation, are matters of frequent observation, and this suggests the observation that the use of a fine, flexible probe for sounding the uterus is quite as efficient in most cases, and far less likely to provoke pain and other undesirable conditions, than the use of sounding instruments of larger caliber. It may also be pertinent to emphasize the necessity of introducing only aseptic—that is, clean—instruments into the uterus, for it is the use of dirty instruments which is largely responsible for the prejudice which exists against intra-uterine therapeutics in general. Instruments which are surgically clean will rarely cause or increase disease. The therapeutics of the mucous membrane of the body of the uterus involves entirely different considerations from those which concern the neck. Here we are approaching the danger line. The subject is one on which the best minds have differed radically. The question of diagnosis is often a very difficult one to settle, and the great importance of the matter is ample excuse for a repetition of what may be familiar and well worn to all my hearers. The mucous membrane of the body of the uterus, both in its physiological and pathological states, has been the subject of the most careful investigations by some of the most competent contributors to medical science. One has but to mention the names of Leopold, Ruge, Williams, Kundrat and Engelmann, Möricke, and Wyder to substantiate this assertion. It is from this membrane that the decidua of pregnancy is developed, and with each recurring menstruation it is exfoliated to a greater or less extent, to be immediately renewed for a subsequent menstruation, or the development of a decidua for a fecundated ovum. Without attempting to harmonize the points of histological controversy in the matter (for an exhaustive analysis of which, see series of papers by Dr. Mary Putnam Jacobi on Studies in Endometritis, Am. Jour. of Obst., 1885), we may accept as a working definition that it is composed of a network of areolar tissue, in which is imbedded ciliated columnar epithelium. It also contains simple and branched tubular mucous glands in great number, the lining epithelial cells of which are continuous with the epithelium at the surface of the membrane. There are also in the structure lymphatic spaces with endothelial lining (Leopold), or, according to another observer (Schmitt), lymphoid corpuscles, or, according to another (Meyer), lymphoid corpuscles resembling endothelia. The mucous membrane is attached to the underlying muscular parenchyma by bundles of connective tissue which carry its nutrient blood-vessels. With a lining epithelium which is easily eroded, delicate blood-vessels which are easily ruptured, and a thousand open mouths of lymphatics which lead directly to the peritonæum, it may be readily understood why this wonderful tissue is so subject to disease, and the medium by which disease is transmitted to other parts. All the elements of this tissue—epithelium, glands, connective tissue, blood-vessels, and lymphatics—may be involved in disease processes, and, according to certain French and German observers, extensive disease seldom if ever attacks it without also involving the underlying muscular parenchyma (see Lumpe, Wiener klin. Woch., 1888, i, 696; Siredey, Dict. de méd. et de chir. prat., p. 631, article Métrite; Doléris, Nouv. arch. d'obst. et de gyn., 1887, p. 100; hand-books of De Sinéty and Courty). It may occur in children as well as in adults, especially in connection with the eruptive fevers (Siredey, *loc. cit.*). It is common alike in puerperal and non-puerperal women, and may be due, as in disease of the cervical mucous membrane, to congestion (non-traumatic), to traumatism, to infection, or to malignant disease. It is far less common than cervical disease, though there is great difference of opinion in respect to its frequency.

Thomas (*op. cit.*, chapter on Chronic Corporeal Endometritis) sustains the assertion which I have made, and quotes Bennett, Byford, and Tilt as also sustaining, West and Aran as opposing it. Its chief symptoms are pain, hæmorrhage, and glandular discharges; but these are not invariably present, and other symptoms—such as general debility, sterility, and reflexes of varying character—have a more or less intimate relationship with it in many instances. The use of the term chronic endometritis for this condition (excluding the neoplasms), when it is of long duration, is rather a matter of convenience than of accurate nomenclature, for in many of the cases an inflammatory process does not exist. I am convinced that many errors of diagnosis are made by depending too much upon the discharges which proceed from the uterus. It is comparatively an easy matter to exclude discharges of cervical origin, but very difficult to exclude those which proceed from the tubes in making a diagnosis from this symptom. In view of the great frequency of suppurative salpingitis, it is not improbable that many cases of that disease have been hastily diagnosticated as endometritis. A similar error may be made with reference to hæmorrhage from or sensitiveness of the uterus. The former may be due to tubal disease, or to malignant disease apart from the uterus (*e. g.*, in malignant disease of the omentum or mesentery); the latter may proceed entirely from peritonitis. It is important to know whether the disease is primary or secondary. In the latter case intra uterine treatment is frequently contra-indicated. General debility, anæmia, and the continued and eruptive fevers may be accompanied with symptoms of endometritis which do not demand local treatment, especially in the young and unmarried. Until civilized society is constituted differently from its present arrangement, we are bound to pay a certain amount of deference to prejudices in this direction.

Non-traumatic congestion is responsible for many of the cases of so-called chronic endometritis, and this may proceed from many sources. Uterine displacements interfering with the venous circulation, atresia of the canal, congenital or acquired, the influence of remnants of retained placenta or decidua, fibroid tumors contiguous to the endometrium—these and many other causes may result in congestion leading to hypertrophy or hyperplasia of the mucous membrane, to polypoid, or papillary, or villous excrescences, retention or excess of glandular secretions, with more or fewer of the symptoms to which allusion has already been made.

Traumatism is a less common cause of endometrial disease. It has been a question with some of the advanced advocates of the influences of infection whether traumatism alone ever produces inflammation. In my own mind, there is no doubt that it may. Aside from the question of unclean hands and instruments, we know there are many individuals with whom the health poise is in such a condition of unstable equilibrium, often from excessive sensitiveness of the nervous system, that any unusual irritation of the uterine mucous membrane will cause most violent reaction.

The traumatisms of parturition, of surgical operations upon the uterus, and the occasional effect of powerful caustics to the endometrium may be mentioned among the possible causes of disease of this structure.

Infection is a most prolific cause of the condition under consideration, and the peculiar construction of the mucous membrane which has been referred to renders it a very attractive field for infectious agents. Perhaps first in importance are infections which occur during the puerperal period, especially in cases in which the fœtus is cast forth prior to maturity. In such cases, unless intelligent antiseptic treatment is resorted to, the consequences may be very severe. How many cases of endometritis, either uncomplicated or combined with disease of the annexa, are traceable to want of proper care after an abortion or a labor at term! The infection of gonorrhœa and syphilis, especially the former, may result in very decided inflammatory lesions of the endometrium, and the profession at large is only beginning to realize the significance of this disease in the pain, the sterility, the peritonitis, and the prolonged endometritis which it so often causes. Other infectious diseases—tuberculosis, diphtheria, and the eruptive and continued fevers—have been demonstrated to be causes of endometritis. It is evident that in all such cases the cervical mucous membrane is first attacked, the process then extending to that of the body. It must be admitted that it is often difficult to trace a disease of the endometrium to any one of the three ætiological elements—congestion, traumatism, and infection—as they are often combined. They may also be implicated to a greater or less extent when malignant disease is present, but the presence of this disease can usually be ascertained by the aid of the microscope, when clinical signs are wanting in positiveness. I say *usually*, for there are transition periods from the benign to the malignant, when an exact diagnosis is impossible, and a correct diagnosis may be equally impossible from the portion of tissue which is obtained for examination. Malignant disease of the endometrium may take the form of sarcoma, carcinoma, or adenoma, and it is far less common than malignant disease of the cervix.

A great deal of ingenuity has been displayed in classifying and subdividing the various forms of endometritis with reference either to clinical or anatomical peculiarities. I can not see that such a multiplicity of distinctions serves any useful purpose, certainly when therapeutic procedures are under consideration. Thus we have e. dysmenorrhoica (Schröder, see Handbuch der K. der weib. Gesch., 6. Aufl., p. 110); e. chronica hyperplastica (Récamier, Nélaton, Olshausen, Arch. f. Gyn., viii, 97; Heinricius, Arch. f. Gyn., xxviii, 161), which is the most fitting and appropriate of all these terms; e. hæmorrhagica (Schröder), in which hæmorrhage is the conspicuous symptom; e. decidua (Schröder) in cases in which there is inflammation of the endometrium during pregnancy, and which usually terminates in abortion; e. polyposa, e. villosa, and e. fungosa, which are sufficiently indicated by the term chronic hyperplastic endometritis.

Ruge (Zeitsch. f. G. u. G., v, 317) differentiates upon an anatomical basis e. interstitialis, e. glandulosa, and e. mixta, and Schott (Volkmann's Sammlung, No. 161) describes e. menstrualis and e. menorrhagica. The rare forms e. atrophica and e. desiccans, in which there is extensive exfoliation of the endometrium, even including muscular tissue, are also described.

The question of treatment, to which all the foregoing is subsidiary, is one which abounds in contradictions quite as much as do the questions of anatomy and diagnosis. At the meeting of the American Gynæcological Society in 1879 papers upon this subject were read by Dr. White, Dr. Battey, and Dr. Jenks, and discussed by Dr. Sims, Dr. Thomas, Dr. Bozeman, Dr. Goodell, Dr. Mundé, Dr. Reamy, Dr. Howard, and others. The first three expressed conservative views as to the propriety of intra-uterine applications for endometritis, though Sims and Thomas were advocates of the curette. The others advocated great freedom in intra-uterine treatment. Emmet's strong objections to any form of intra-uterine therapeutics, with the exception of the very infrequent use of the dull curette, are well known. Among French gynæcologists all forms of intra-uterine treatment are in vogue, more particularly the use of the curette, under the influence of the teachings of Doléris. In Germany the tendency is also toward great freedom in intra-uterine treatment, Lumpe being almost alone (Wiener klin. Woch., 1888, i, 696) in taking a stand which is only slightly less positive than that of Emmet. In almost all the other countries of Europe the curette is in favor, with more or less adherence to the use of powders, pastes, solutions, and irrigations. Heinricius (*loc. cit.*) has made a very complete and detailed statement as to the advocates of the different methods of intra-uterine treatment which will be found very interesting and instructive. The literature of the subject is large, and one can find almost any phase of opinion which is desired. My own opinions in this matter are as follows:

I should divide the subject of intra-uterine therapeutics into three parts, the first of which will include treatment by irrigation, the second treatment by the use of solutions, pastes, or powders, and the third treatment by the curette. In any case it is desirable that the uterine cavity be sufficiently dilated to secure free exit of all fluids, hence artificial dilatation will frequently be of service. The use of tupelo or laminaria tents *with proper precautions* is often desirable. I have never seen any harm from their use. The use of stem pessaries is objectionable in most cases. I have seen much harm result from the irritation which they cause, and have discarded them entirely. If there is great displacement of the uterus, drainage will, of necessity, be imperfect. Capillary drainage may be effected by the occasional use of a thin tent of iodoform or bichloride gauze, which should not be retained longer than two days. In puerperal cases irrigation with hot antiseptic solutions will frequently be of the greatest value, with or without the use of the curette. Since this method was revived by Winckel and von Grünewald it has been extensively adopted. The possible dangers are more than counterbalanced by the advantages to be gained. Either the Chamberlain glass tube or the Bozeman-Fritsch double catheter will be found very serviceable in performing this operation. In non-puerperal cases irrigation alone is seldom indicated. If curetting has been performed, the detritus may be removed by irrigation, care being taken in all cases that there is a free outflow of all the fluid introduced. Continuous or frequent irrigations, which have been zealously advocated in certain quarters, involve much disturbance of the patient, are usually unnecessary, and are not without considerable danger. Intra-uterine treatment by means of pastes, powders, and solutions is not of general utility. In puerperal cases in which there is a suspicion of sepsis a pencil of iodoform in the uterine cavity is highly approved by some excellent authorities. Applications of powerful astringent and antiseptic solutions may also be made upon the mucous membrane in such cases with considerable advantage, especially after the membrane has been curetted. In non-puerperal cases hæmorrhage may be checked by the application of astringent solutions and powders, and pain may be relieved. Pastes and unguents are often useless, as they may not be dissolved, are often inert, and may even be highly irritating by their long-continued presence in the cavity. Of course there are cases in which they are beneficial, but in general this is not a useful method of medication. In hyperplastic endometritis, for which the method of treatment under consideration is most frequently employed, it must be remembered that though benefit may be derived by it, such benefit is only palliative in the great majority of cases, the source of the trouble remaining.

This brings us finally to the subject of treatment with the curette, which is more radical and more frequently curative than any other method. The curette is primarily an instrument for diagnosis; it is a prolonged finger, and as it is gently passed over the mucous membrane it informs us with accuracy whether any condition exists which requires active interference. In puerperal cases it is invaluable for the removal of bits of placenta or shreds of decidua which might result in great mischief. A softened and thickened endometrium which may have been the cause of an abortion can be scraped and stimulated to healthy action by its assistance. If the membrane is thickened and congested from the presence of a fibroid tumor, a careful curetting will relieve hæmorrhage, perhaps for a long time. If there is bleeding on account of a villous, or papillary, or fungous condition of the endometrium, curetting will relieve it almost to a certainty. The same condition may be relieved by the galvanic current, but not more efficiently as a rule. If the mucous membrane is merely thickened or hyperplastic, a careful curetting is the most efficient way to stop the supersecretion of the glands and remove other symptoms dependent upon the condition. In malignant disease of the endometrium the curette is of the greatest value if a radical operation is not to be performed. It is well to follow its use with that of the actual cautery, or a powerful caustic like the chloride of zinc. As to the form of the curette to be used, the dull wire may be employed if the tissues to be removed are not dense or abundant, but it bends readily and is comparatively useless if the disease is very extensive. The sharp steel curette is an instrument which is not without great danger, but, if one remembers this fact and understands the tissues he is operating upon, it will often prove invaluable—a friend from which one would not readily part. Auvard has recently devised an instrument with which curetting and irrigation can be performed at the same time, and the *écouvillon* or bristle brush of Doléris, with which the *débris* from curetting can be removed, is well known. Neither of these instruments has come into general use in this country.

159 East Thirty-seventh Street.

CHRONIC NASAL CATARRH IN VERMONT.

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According to the characteristics of the lesion, chronic nasal catarrh has been subdivided into three varieties—namely, (1) the simple, (2) the hypertrophic, and (3) the atrophic. Examples of each variety are seen in Vermont. In frequency of occurrence the hypertrophic form stands first, the simple second, and the atrophic form rarely presents for treatment. By the hypertrophic form is understood that variety of chronic nasal catarrh in which the lining of the nasal passages is chronically thickened, whether that thickening be due chiefly to actual hypertrophy, or chiefly to chronic engorgement of the blood-vessels of the submucous connective tissue. In either case there is true hyperplasia, but it is more marked in the one than in the other. Probably eighty per cent. of all the cases of nasal catarrh that I have seen in this climate have been examples of the hypertrophic variety, in which the most prominent feature of the lesion was chronic engorgement of the submucous blood-vessels of the inferior and middle turbinated bodies. The morbid process extended uniformly over the turbinated bone, or it was more marked over the anterior extremity of the inferior turbinated bone, or, still less frequently, it was circumscribed as a posterior turbinated hypertrophy.

In more than fifty per cent. of all cases there was deformity of the septum. Three varieties of such deformity have been observed: 1. A more or less conical tumor or outgrowth springing from a broad base at the junction of the vomer with the triangular cartilage. Section of these outgrowths revealed a structure chiefly cartilaginous, but presenting spiculæ of bone in their center, near the base. The septum in the opposite meatus was in a normal condition, and was not deflected from the median line. This variety of deformity is very common. The growth often attains sufficient size to seriously interfere with the function of the affected side. 2. Bony outgrowths or ridges running antero-posteriorly along the line of junction of the vomer and superior maxillary bones. The septum opposite the base of these ridges sometimes presented a slight depression, which never corresponded in depth to the height of the ridge. These bony outgrowths often obstructed nasal respiration. 3. True deflection of the cartilaginous or bony septum. Deflections in curves from above downward, or from before backward, have been observed. The latter are more apt than the former to give symptoms. These deformities of the septum exist in conjunction with the three varieties of chronic catarrh.

The climatic conditions favor the development of nasal and laryngeal catarrhs. Sudden and great changes of temperature occur both in winter and in summer; cold and damp winds prevail from November to May; in one half of the year pedestrians are exposed to the effects of cold mud or melting snow; the heat of summer is often excessive, and in that season the country roads and the village streets are very dusty. Moreover, acute and chronic coryza are either not treated at all, or they are insufficiently treated. Thus the conjoined influences of climate and professional indifference condemn the inhabitants of this section to endure the annoyance and suffering incident to chronic inflammations of the upper respiratory tract. Except in syphilitic or in strumous subjects, chronic nasal catarrh in this climate never depends upon a dyscrasia of the blood.

The most prominent symptom of simple chronic catarrh is increased secretion from the nose. The discharge is a thin mucus, or it is muco-purulent. Such patients have frequent attacks of acute coryza, which are caused by the slightest imprudence or exposure.

In hypertrophic catarrh other symptoms are added, the most annoying of which is difficulty in breathing through the nose. In some cases nasal respiration is completely obstructed. In other cases the patient can breathe through only one nostril at a time, for the changing circulation in the engorged turbinated bodies occludes, alternately, first one nostril and then the other. The presence of an outgrowth on the septum will interfere permanently with the function of the side affected. In the mildest cases the patient can breathe through his nose, but he is conscious that his nose is never very clear. The second set of cases are those commonly observed in this section.

Dull frontal headache occurs in nearly all cases of hypertrophic catarrh. Some patients complain of confusion of the intellectual faculties and impairment of memory, which they attribute to their nasal trouble. When the hypertrophy occludes the nasal passages, the patient's condition of both mind and body is distressing. Epistaxis occurs in many cases. The hæmorrhage, although usually trifling, is very annoying. Often patients are distressed by recurring paroxysms of sneezing.

The symptom of atrophic catarrh which the patients are most anxious about is the offensive odor imparted to their breath by the decomposing secretions. But, as I have already stated, such cases are not common in Vermont. The complications occurring in a large percentage of the cases, and due in a great measure to the previous existence of nasal inflammation, are post-nasal catarrh, inflammation of the Eustachian tubes and middle ear, pharyngitis, and laryngitis. Hypertrophic nasal catarrh is also a predisposing cause of acute bronchitis. I have observed in many instances that patients who had formerly suffered from frequent bronchial colds were very much less liable to such attacks after I had cured their nasal trouble.

The diagnosis of catarrh must be made by rhinoscopic examination. Cases are observed occasionally in which there is no history of catarrh, but in which rhinoscopic examination reveals marked engorgement of the turbinated bodies. Simple and atrophic catarrh present the usual rhinoscopic appearances. In the hypertrophic form the characteristics of the process may be determined by spraying the parts with a weak solution of cocaine. The walls of the blood-vessels contract under the influence of that drug, and the degree of true hyperplasia, as compared with the degree of engorgement of the submucous blood-vessels, is revealed. All parts of the nasal passages are thus more easily inspected, and one is therefore less likely to overlook the existence of deformities of the septum, of nasal polypi, etc. Cocaine facilitates the diagnosis very much.

The treatment which has given the best resnlts in my hands is twofold—hygienic and local. The hygienic treatment consists in a cold sponge-bath over the arms and trunk every morning. Patients begin with tepid water, but they are soon able to bathe in water as it comes from the hydrant. In those whose muscles are weak, calisthenic exercises are added. The patient's feet are warmly clothed and kept dry. The practice of muffling the neck, except while riding in cold weather, is discouraged. Removal of wraps while sitting in a warm room is of course insisted upon. This system is an old one, but it is one of great importance to those who have a predisposition to catarrhal inflammations of the respiratory tract.

The local treatment of simple chronic catarrh consists in the use of cleansing and astringent sprays and pigments. Atrophic catarrh calls for active treatment, in which cleansing fluids, nitrate of silver, the galvano-cautery, and cotton tampons play the chief part. Cleansing and astringent sprays are resorted to in the management of hypertrophic catarrh, but they are not sufficient to effect a cure. The hypertrophy must be overcome and free nasal respiration must be permanently re-established before the case will recover. Cocaine will restore nasal respiration, but its effect is transient, its use is followed by increased congestion, and it produces a deleterious effect on the system, if continued for a considerable length of time.

To remove posterior hypertrophies, the cold wire snare is the means preferred. Hypertrophies not located near the Eustachian tubes, in which the chief feature is engorgement of the blood-vessels, are best treated with the galvano-cautery knife. By using cocaine freely before the operation, the hot knife may be used without causing pain. Patients very seldom complain of the operation. It is better to repeat the sittings than to burn extensively at one time. If the septum is touched by the knife during the operation, adhesion between it and the turbinated body is pretty certain to follow. And a cauterizing operation should not be done in both nostrils on the same day. No reaction, save swelling of the burned area, has ever been observed in my cases. The patients go about their business as usual. The wound heals in from one to two weeks. The burnings are repeated from time to time until the engorgement is cured. True hyperplasia, whether posterior or not, is best treated with the cold snare. Cleansing and antiseptic sprays and pigments are used throughout the treatment; and any co-existing inflammation of the ear, pharynx, or larynx is treated in the usual way at the same time.

Deformities of the septum (varieties 1 and 2), when they interfere with the function of the nose, are removed with the saw or with nasal trephines and drills propelled by an electric motor. Cocaine anæsthesia will render these operations almost painless. The hæmorrhage is never excessive and is easily checked. No reaction has ever followed such operations in my experience. The patients have attended to their business as usual, annoyed, perhaps, during the day of operation by slight oozing through the tampon. The results of these operations are always satisfactory to the patients.

The third variety of deformity of the septum is treated by a different surgical procedure.

The prognosis of chronic nasal catarrh, unless proper treatment is carried out, is unfavorable. The symptoms are most annoying during the colder months, but the disease is never cured by the milder atmospheric conditions of summer. And patients who have endeavored to find relief from their nasal affection in a change of climate usually relapse soon after their return to Vermont. When hypertrophy exists, and when the septum is deformed, nothing but surgical interference can cure the patient. Nearly every case of simple and hypertrophic nasal catarrh is curable by the measures detailed above, even in this unfavorable climate, and relapses are infrequent. The atrophic variety is incurable, but the severity of its symptoms may be mitigated by treatment.

The Society of the Alumni of Charity Hospital.—At the regular meeting, held on Tuesday, the 11th inst., Dr. R. W. Taylor read a paper on Cerebral Syphilis and its Treatment, and Dr. W. L. Baner one on the Use of Inhalations.

The New York Post-graduate Medical School and Hospital.—Dr. Frank Ferguson, pathologist to the New York Hospital, has been elected professor of pathology in the school.

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APROSEXIA AND OBSTRUCTION OF THE UPPER AIR-PASSAGES.

In a recent number of the British Medical Journal there is an article on this subject by Mr. William Hill. He calls attention to the fact that children who suffer from deafness due to enlargement of the lymphoid (tonsillar) tissues of the naso-pharynx and fauces are described by parents and teachers as backward and stupid, a condition attributed to their inability to hear. The characteristic countenance of such children—foolish, open-mouthed, pinched, and with a fallen-in condition of the alæ nasi—has been explained as the result of mechanical obstruction in the upper air-passages. That the symptoms are in part an evidence of a hampering of cerebral functions is borne out by the headaches and inability to fix the attention for any length of time. Mouth-breathing, faulty respiration, and unsanitary surroundings are certainly prejudicial to children's general health. Yet there is reason to believe that these factors, even when added to impaired hearing, are insufficient to account for the mental deterioration so often met with. That inability to fix the attention—aprosexia—and other allied neuroses are frequently associated with obstructions in the nose and throat was first insisted upon, in 1887, by Guye, of Amsterdam. Experiments of Hill's confirm this view. Operations on children for the relief of deafness associated with adenoid growths, enlarged tonsils, and hypertrophic catarrhal conditions of the nose frequently resulted in an immediate improvement in mental acuteness altogether incommensurate with the slight immediate improvement in hearing. The speedy relief of aprosexia and other cerebral symptoms following naso-pharyngeal scarifications can not be explained solely, in the author's opinion, on the ground of the correction of faulty respiration and improvement in the general health; he concludes, therefore, that operative procedures act beneficially by relieving congestions of the intracranial and venous systems, as Gnye suggests. The intracranial veins and sinuses communicate with the veins of the frontal, ethmoidal, and sphenoidal air-sinuses, and through these with those of the nose and naso-pharynx and with the pterygoid plexus. The intracranial lymphatics pass out of the skull along the course of the nerve-sheaths, according to Key and Retzius. Those lymphatics which pass out through the cribriform plate of the ethmoid along with the olfactory nerves are in direct connection with the nasal and the naso-pharyngeal lymphatics, which converge to and eventually enter the follicular lymphoid glands of the nose, naso-pharynx, and fauces. The author contends—and has stated elsewhere—that the various tonsils and follicular glands are *par excellence* lymph-secreting organs, which pour leucocytes and serum into the alimentary and respiratory tracts. Thickened mucous membrane prevents lymph-leakage and diapedesis of leucocytes into the pharynx. Hence tension in converging lymphatic systems. Thus it is perceived how lymphatic stagnation and congestion bring about an increase of intracranial tension, which is greatly benefited by scarification and free bleeding. Well-marked enlargements of the inferior turbinated body, due to venous engorgement of erectile tissue, and adenoid and polypoid hypertrophy of the middle turbinated body, may rapidly subside after the removal of enlarged tonsils and adenoid growths of the naso-pharynx.

Ferrier has pointed out that extirpation of the prefrontal lobes in monkeys is followed by marked impairment of attention and observation. It seems not unreasonable to suppose that aprosexia and other symptoms, when associated with lymphoid overgrowths and obstructions, may be the outcome of lymphatic and venous stagnation and tension in structures occupying the anterior region of the cranium. In strumous or syphilitic children the question arises as to whether the want of cerebral development on the one hand, and the morbid conditions of the nose and pharynx on the other, have a casual or a causal relationship. Among the backward, idiotic, and imbecile children that were examined there existed the low, sloping forehead, indicating the small size of the anterior lobes of the brain. There were also mouth-breathing, night-snoring, some form of nasal or laryngeal obstruction, deafness in many cases, and aprosexia. A mental condition due to arrested development early in life or *in utero* is not likely to be much improved by naso-pharyngeal surgery. But surgical measures may lessen the number of stupid children, for whom the future, in point of earning a livelihood, is the reverse of cheering. A natural condition of mind depends upon a normal supply of normal blood to the sound brain. An abnormal supply of blood, even to the healthy brain, would produce abnormal conditions of the mental faculties. It has been said that nasal catarrh is not an inflammation, but a condition produced by a paresis of the ganglia of the sympathetic nervous system supplying the parts. Neurasthenia is often the result, and may be cured by attention to this abnormity. There is constantly a trend in science to relegate all disease to some error in mechanics. Correction of structural defects restores the part to its normal function. Structure out of proportion brings about chemical changes, and these in turn exaggerate the defectiveness of proportion. Some recent experiments in the physical training and education of criminals that gave brilliant results have literally been efforts at restoring proportion. Mr. Hill's article presents many points of interest. They are enunciated in behalf of the lazy, stupid-looking child, who has frequent headaches in school, breathes through his mouth instead of his nose, snores and is restless at night, and wakes up with a dry mouth in the morning. This unfortunate being is earnestly recommended to the serious attention of his medical pastors and masters. Inability to fix the attention on any definite, abstract subject—aprosexia, as Guye terms it—is so serious in itself and in its possible results that the observations of Guye and Hill become at once of real value and definite importance. Should the theory as to cause or as to relationship of coincident conditions stand the test of more extended observation—in other words, of time—it will be perceived that the accepted nomenclature and ætiology of certain morbid states must undergo revision.

LITHÆMIC MANIFESTATIONS IN THE UPPER AIR-PASSAGES.

In the American Journal of the Medical Sciences, Dr. A. Whitehall Hinkel calls attention to this subject as one that has hitherto received but slight consideration in laryngology. The local and surgical view has somewhat usurped the place of more general research into causes that produce effects of apparent similarity, yet of widely different origin. Harrison Allen has reported five cases of gouty sore throat. Less well-defined forms of inflammation present certain appearances and symptoms not in themselves pathognomonic. These, taken in connection with the history and general condition, together with the results obtained by measures directed to the lithæmic state, indicate their dependence upon the so-called defective laboratory work of the liver, concerning which but little is known. The term lithæmia is tentative in character, based upon clinical manifestations solely, and applied with considerable latitude as to meaning. It is used by Dr. Hinkel as Murchison uses it—to express a condition of suboxidation and overcharging of the blood and excretions with excretory matter in a state of faulty elaboration, due to inherent and hereditary abnormity of function, or to prolonged exposure to depressing environment. Dr. Solomon Solis-Cohen calls it an abnormal normality; that is, an inherent departure of the individual organism from the typical action of like organisms.

Starches, sugars, acid fruits, and some other ordinary articles of diet are said to produce peculiar disturbances in the lithæmic constitution. The utmost simplicity and regularity of diet will not prevent recurring exacerbations of characteristic symptoms when the pursuits are sedentary and there is unusual mental or nervous strain. There is a tendency to form uric acid in excess, together with a waste of phosphates and digestive, mental, and nervous phenomena as easily recognizable as they are harrowing. The American's environment renders local attacks of gout rare, while the nervous and digestive forms are not uncommon, especially in individuals of gouty ancestry.

Lithæmic manifestations in the upper air-passages fail to present conditions that invariably announce their origin, and they are not uniform in type; at the same time, certain given appearances or symptoms are more or less connected with lithæmia and suggest treatment for that condition, whatever local measures may be indicated. A patchy congestion of the laryngeal face of the epiglottis, extending along the arytæno-epiglottic folds and over the posterior aspect of the ventricular bands, is occasionally seen in cases of irritable sore throat associated with lithæmia. There is also a harsh, dry cough, with a sense of extreme irritation about the larynx. This patchy congestion of the mucous membrane has been observed, by means of the cystoscope, in the bladder of a lithæmic subject. When the patchy inflammation is present there is extreme sensitiveness to astringent and stimulant applications, which in itself is a point of diagnostic significance. A case cited—aggravated by aromatic inhalations, mild astringent sprays, and solutions of sulphate of zinc or silver—was promptly relieved by alkalies and antizymotics, together with inhalations of diluted lime-water, and a carefully arranged diet. This patchy condition may exist in the pharynx, extending in streaks along the postero-lateral walls, with a sense of uneasiness or pain on swallowing. The pain darts into one or both ears, and "seems to come out of the ear—to be a very long pain, in fact, apparently extending beyond the surface of the body." The pain of gouty sore throat appears severe out of all proportion to the degree of inflammation. Periodicity may prove, on investigation, to constitute a symptom of lithiatic manifestations in the upper air-passages. Lithic storms have been accompanied by marked naso-pharyngeal catarrh not present in appreciable degree during the intervals, the symptom appearing several days before the digestive and other disturbances. General medication and hygiene serve to check the catarrh and the general attack. In such a case, iodine and stimulant applications are extremely irritant. Obstinate relaxation of the venous plexus of the turbinated bodies, coincident with general lithæmic indisposition, can not be treated to advantage with caustics, on account of too great inflammatory reaction. Soothing local applications, diluents and alkalies internally, and general hygienic measures are the most effective means of relief. Damp, cold winds invariably bring about, in certain lithæmics, inflammation and occlusion of the nasal chambers to an extent not severe but very annoying. Local measures avail but little, while general treatment is followed by good results.

It seems, then, that there is a grain of truth in the old-fashioned idea that the doctor should understand the constitution of his patient. Possibly the division of the body into bits and the minute study of localities and structures has a tendency to narrow the medical horizon. Without perspective, vision is necessarily restricted. Treating the disease and not the patient may be interesting from the standpoint of experimental science; yet it must inevitably fall short of gratifying the sufferer, whose only aim is to get well.

MINOR PARAGRAPHS.

DR. LAUDER BRUNTON AS AN INVESTIGATOR.

The return of Dr. Lauder Brunton from India is announced in the British Medical Journal, which quotes from the Pioneer of India an engaging account of Dr. Brunton during its knowledge of him as a Chloroform Commissioner at Hyderabad. An accident which occurred to him in the course of some of his experiments brought to light the fact that before he went out to India he visited Pasteur at Paris and had himself inoculated as a precautionary measure against the possibilities incident to a large experimentation upon dogs and other animals. The very danger which he foresaw as possible occurred to him; he was badly bitten by an enraged pariah dog which escaped from the control of his assistants. When every one else present at the experiment manifested alarm, Dr. Brunton quietly reassured them by disclosing the fact of his Pasteurian treatment, saying, "It does not matter; I thought something of this kind might happen." Thus, says the journal, "there is heroism also in a chloroform commission." With all his inflexibility of nerve as a man of science and operator, Dr. Brunton was gracious and accessible even to the inquiries of a stranger, and anxious to explain everything connected with the work of the commission. "No one who has come into contact with him," says the Pioneer, "can help being fascinated with the charm of his manner and the extent of his knowledge." Dr. Brunton has since written to the British Medical Journal a letter in which he modestly declares that, instead of praise for heroism, he rather deserves censure for "medical awkwardness," and explains that he did not betake himself to Pasteur for inoculation, but was inoculated accidentally twelve years ago.

SANITARY INTERESTS IN FORESTS.

A meeting of some of the medical men of New York was held on February 7th, to consider the question of the preservation of the Adirondack region as a health resort. Several causes are at work to destroy the forests in that section of the State, not the least of which, it is alleged, is the facts that there are members of the Forestry Commission who are also in the lumber business in the Adirondacks, and that the Commission, as a body, has been either inefficient or criminally negligent. What these physicians seek to accomplish at the present time is the preservation of that region as a kind of health resort for the people by preventing future encroachments of corporations and individuals by the use of the axe. To this end a bill will be presented before the present legislative session to convert the entire region into a State park or reserve. We are glad to see a body of medical men standing up in defense of the trees, and Dr. Loomis and his associates have our thanks. The day will come, we are sure, when medical men and medical societies will recognize it as a part of their duty to protect the trees that are then standing, and also to teach where others should be planted. The tree is the fit emblem of the faithful guardian of the people's health—one that needs no watching, a tireless and sleepless servant. This was, in part, the thought of the old Scottish laird who, on his death-bed, advised his heir, "Aye, Jamie, plant a tree; it'll be growing whilst ye're sleeping."

THE CHEMISTRY AND THE THERAPEUTICAL ACTION OF SULPHONAL.

The British Medical Journal publishes an interesting abstract of an article contributed by Kast to Hoppe-Seyler's Zeitschrift für physiologische Chemie, giving an account of some further researches as to sulphonal. He desired to ascertain if the hypnotic power of the drug resided in the sulphur-containing radicles or in the ethyl or methyl components. The drug is chemically known as diethylsulphonedimethylmethane. Kast found that the hypnotic effect depended upon the ethyl radicles rather than upon the others. Any disulphone having a single ethyl group has a slight effect. Sulphonal has two such groups, and so also has dimethylsulphonediethylmethane, with which it is isomeric, and they are said to be precisely equal in their sleep-producing power. Going still further, he took two other members of the disulphone family, trional being one of them, each of which contains three atoms of ethyl, and found that their action was still stronger; while the most decidedly hypnotic of the whole group of fourteen disulphones examined was found to be tetronal, which contains four ethyl radicles. Those disulphones which contained only methyl radicles appeared to have no hypnotic action. His experiments were carried out both on dogs and on man. He was assisted in his studies by Professor Baumann.

A PROPOSED REFORM IN MEDICAL EDUCATION.

Gentlemen representing almost all the medical schools in Maryland met recently in Baltimore and resolved to make a fresh attempt to prevail upon all such institutions in the United States to insist upon a more complete curriculum and a longer course of study than are now required by many of them. It was decided to send a circular to all the colleges asking them to send representatives to a meeting to be held at Nashville, Tenn., on the 21st of May. The following-named subjects will probably come before the meeting: The requirement of three annual courses of six months each; a graded curriculum; written and oral examinations; a preliminary examination in English; and laboratory instruction in chemistry, histology, and pathology. Our colleagues in Maryland are much to be commended for this move, and we trust that it may meet with greater success than has attended like efforts in the past. The fact that the meeting is to be held in conjunction with that of the American Medical Association is of good omen in this direction.

EXALGINE.

Exalgine, or orthomethylacetanilide, as the Therapeutic Analyst remarks, has its warm advocates as well as some of the older of the aromatic series. One of these advocates says of it that, like all the derivatives of the same series, it is antiseptic and antithermic, as well as analgesic, and possesses the latter quality in a "comparatively superlative" degree, being more efficient than antipyrine, and in doses about half as large. The antithermic power of exalgine is inferior to that of acetanilide. The following is a formula, given in Nouveaux remèdes, by Dr. Bardet, for antineuralgic treatment: Exalgine, one drachm; cherry-laurel water, ten fluidrachms; syrup, one ounce; water, enough to make five ounces. The dose is a tablespoonful, which may be repeated, if necessary, twice during the day. The use of exalgine in influenza has been advocated by Dr. Dujardin-Beaumetz, especially during the painful period, for the reason that its primary activity is on the nerves of sensation. Exalgine has not been found to disturb the stomach.

LARGE SKIN-GRAFTS FROM THE GREYHOUND.

According to the Journal of the American Medical Association, a boy, badly burned from the knee to the ankle on one leg, has been under treatment in one of the London infirmaries. Shortly after his admission extensive skin-grafting was put in practice, the grafts being taken from a greyhound pup. The skin-strips that were applied to the burned leg were about six inches in length and half an inch in width. They were all adherent except one at the end of four days. The patient was discharged cured at the end of six weeks after the grafting was practiced.

BLINDNESS FOLLOWING THE USE OF HYDROBROMIDE OF HOMATROPINE.

The Boston Medical and Surgical Journal says that Dr. Frederick E. Cheney has reported to the Boston Society for Medical Improvement a unique case of hysterical mydriasis, paralysis of accommodation, and blindness following the topical use of a three-per-cent. solution of the hydrobromide of homatropine. The patient was decidedly hysterical and the subject of uterine disease. She was treated for some months in private and in hospital, and the lost visual power was gradually recovered.

A CANADIAN COMMISSION IN LEPROSY.

Dr. Alfred C. Smith, of Newcastle, New Brunswick, has recently been reappointed a governmental commissioner in leprosy for the northeastern provinces of Canada that are affected with that disease. Since the discovery, last year, of the Cape Breton cases Dr. Smith has continued his investigations, and, while no causes for apprehension exist, he has been directed to give his undivided attention to the same work, under a permanent official appointment by the Dominion Government. Dr. Smith is a graduate of Harvard University.

AN OFFICIAL BOARD OF MEDICO-LEGAL EXPERTS.

In Hungary, says the London Medical Recorder, steps have been taken for the formation of a senate of medico-legal experts, to consist of fifteen members. It will be the duty of this body to report to the Minister of Justice on all cases in which the courts require the aid of medical science. The strength or weakness of this senate must in large measure depend upon the character of the fifteen members chosen; at all events, the experiment is worth a trial.

PHENYLURETHANE, A NEW ANTIPYRETIC.

Another crystalline body, one of the aromatic group of carbon compounds, has been announced as having antipyretic and analgesic properties. It is also said to be decidedly diaphoretic. It appears in the form of a white powder, soluble in concentrated alcohol, but insoluble in water. Under doses of eight grains, the temperature is lowered three degrees in from twenty to forty minutes, the effect lasting from nine to twelve hours. It is highly recommended for trial in chronic articular rheumatism, since it is probable that it will not only relieve pain, but reduce the swelling of the joints. The proponent of the new remedy is Professor Guaconnoni, whose report, as presented to the Academy of Medicine of Turin, has been published, in part, in the Zeitschrift des Apothekervereines, and is summarized in the British Medical Journal. The standard dose is said to be eight grains.

A FRENCH INVESTIGATOR OF AMERICAN MEDICINAL SPRINGS.

Dr. L. Blano, of Aix-les-Bains, was present at the December session of the Boston Society for Medical Improvement, as we learn from the Boston Medical and Surgical Journal, and gave a description of the medicinal baths at that place. It is understood that Dr. Blanc has been sent to this country by one of the departments of the French government to examine and report upon the mineral springs that have remedial properties and reputation.

THE PERSISTENCY OF SCARLET-FEVER POISON.

Sir Spencer Wells is quoted, in the Medical Press and Circular, as authority for the following example of the persistence of the scarlet-fever poison: In Yorkshire a number of scarlet-fever patients who had died were interred in the country churchyard. In the course of time some of this ground ceased to be used as a burial plot, and became a part of the garden of the rectory. The rector caused a digging up of soil where scarlet-fever bodies had been laid thirty years before, with the result of causing an outbreak of the fever in his own and adjoining households.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 11, 1890:

DISEASES.	Week ending Feb. 4.		Week ending Feb. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	0
Typhoid fever	9	2	17	8
Scarlet fever	81	8	78	6
Cerebro-spinal meningitis	0	1	3	0
Measles	77	8	76	11
Diphtheria	110	26	124	30
Varicella	5	0	0	0

An Army Medical Board will be in session in New York from May 1 to May 31, 1890, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the board will make application for the necessary invitation to the Secretary of War, before April 1, 1890, stating the place of birth, place and State of permanent residence, and inclosing certificates based on personal knowledge from at least two physicians of repute, as to professional standing, American citizenship, character, and moral habits; also a statement of service in hospital from the authorities thereof is desirable. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a *regular medical college*, evidence of which, his diploma, must be submitted to the board. Further information regarding the examinations and their nature may be obtained by addressing the Surgeon-General, United States Army, Washington, D. C.

The Alvarenga Prize.—The secretary of the College of Physicians of Philadelphia informs us that the college will award the Alvarenga prize, consisting of a year's income from the amount of the bequest, to the author of the best memoir or unpublished work in any branch of medicine. The college reserves the right to reject all essays not considered worthy of the prize. Essays will be received by the secretary, Dr. Isaac Norris, Jr., until June 1, 1890.

The Medical Department of the University of Vermont.—Dr. William Oliver Moore has resigned the chair of ophthalmology and otology.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending February 8, 1890:*

Jones, W. H., Surgeon. Ordered to the U. S. Steamer Swatara.

Hudson, A., Medical Director. Died February 7th at Mare Island Hospital, Cal.

Society Meetings for the Coming Week:

Monday, *February 17th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *February 18th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester (White Plains), N. Y.; Ogdensburgh Medical Association; Baltimore Academy of Medicine.

Wednesday, *February 19th:* Medico-legal Society; Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; New Jersey Academy of Medicine (Newark).

Thursday, *February 20th:* New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *February 21st:* New York Academy of Medicine (Section in Orthopædic Surgery); Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *February 22d:* New York Medical and Surgical Society (private).

Letters to the Editor.

SULPHUR AS A REMEDY FOR ORCHITIS.

240 West Thirty-fourth Street,
New York, *February 4, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your issue of January 18th there is a letter from Dr. George Dann on the accidental cure of orchitis and epinidymitis with compound licorice powder. I think I can explain the cure. One of the best remedies for these two diseases, as also for erysipelas, eczema, and scabies, is the 25-per-cent. ointment of the sulphichthyolate of ammonium, the active ingredient being 12 per cent. of sulphur. My usual prescription is:

℞ Ammonii sulphichthyolat................ ℥ ss.;
Lanoline.................................. ℥ jss.
M. S.: For external use.

As the ichthyolate contains 12 per cent. of sulphur, this ointment contains 3 per cent. sulphur, and the lanoline promotes absorption. It is not only a resolvent, but a local anæsthetic. Now, compound licorice powder contains sulphur, and Dr. Dann's patient was cured by the sulphur. The drachm dose of tincture of iodine formed iodide of starch in his food, and he was saved trouble by this fact. The patient probably took the iodine after a meal, on a "full stomach."

Dr. Samuel Sherwell, in your issue of October 19, 1889, speaks of treating his patients with dry powdered sulphur for scabies. Now, had his patients made the mistake of using compound licorice powder, they would have recovered, as Dr. Dann's patient did, though the time might have been longer than with the sulphur alone. The ointment mentioned above would be indicated in all the cases mentioned in Dr. Sherwell's article.

Branch Clark, M. D.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-fourth Annual Meeting, held at Albany, on Tuesday, Wednesday, and Thursday, February 4, 5, and 6, 1890.

The President, Dr. Daniel Lewis, of New York, in the Chair.

(*Concluded from page 155.*)

A Case of Leprosy apparently cured.—Dr. G. H. Fox, of New York, reported the history of a case of leprosy which he had had under his observation for many years. When the patient came to him he had presented all the typical lesions, while his mental condition was most deplorable. This man had been taken in hand and properly cared for and had been given chaulmoogra oil systematically. In 1884 the effect of the treatment had become evident and all the spots had disappeared, and the assumption had seemed well warranted that the downward degenerative changes were arrested. The patient had lived an uneventful country life, enjoying general good health when heard from last year. Some numbness of the fingers persisted, but otherwise the patient reported himself as quite well. The speaker thought that at least the case suggested very strongly the possibility of cure of these cases under favorable conditions.

In the course of an interesting discussion following this report the general opinion of those who had had experience in leprosy was elicited that patients who suffered from it were entitled to a much greater share of practical, social, and medical aid and sympathy, and that thereby their condition would be materially benefited, and in many cases the disease might be halted before it could accomplish its more pronounced ravages.

The Thomas Hip-splint.—Dr. J. F. Ridlon, of New York, described the various modifications, attachments, methods of adjustment, and general surgical characteristics of the Thomas splint. He strongly advocated its use as a mechanical appliance which fulfilled special requirements in various forms of hip disease.

The Pendent Limb in the Treatment of Joint Diseases of the Lower Extremity.—Dr. A. B. Judson, of New York, cited statistics to prove that articular osteitis of the upper extremity frequently ended in spontaneous resolution, because here the affected part was exempt from pressure and violence which fell to the lot of the joints of the lower extremity in standing and walking. He believed that in the chronic affections of joints of the lower extremity crutches and a high sole could not be relied on to secure a pendent limb, because in the absence of acute symptoms crutches were discarded, especially during periods of long duration when the disease was latent. He advocated the use of the ischiadic or perineal crutch, which could not be willfully laid aside, because it was worn under the clothing, and was easily tolerated because it left the hands and arms free and did not interfere with the ordinary pursuits. Furthermore, the pelvic bones were designed for supporting the weight of the body by the basal position of the os innominatum in the skeleton of the trunk and by the solid union which existed between the pelvis and the vertebral column, while the presence of the brachial and axillary vessels and nerves and the loose union between the shoulder and the trunk made the use of crutches sometimes painful and generally awkward. He exhibited a sabot designed to take the place of the expensive cork sole ordinarily worn with the ischiadic crutch. It was constructed of light wood and conveniently fastened by two screws counter-sunk on the inner side of the shoe. If properly shaped and colored, the imitation of a cork sole was very good and cost hardly anything.

Tuberculous Osteitis of the Hip complicated by Tuberculous Ulceration of the Intestines; Absence of Symptoms; Autopsy.—Dr. V. P. Gibney narrated the history of a case in which the patient, a boy twelve years of age, who was under treatment in the hospital for correction of deformity resulting from hip disease, had developed pulmonary trouble and died. The report of the autopsy was of interest as showing what extensive intestinal lesions might exist without any symptoms pointing to any such trouble. The lungs had presented the ordinary tuberculous changes, while other organs were found but little involved until the intestines were examined. Of these it was stated in the post-mortem report as follows:

"*Small Intestine.*—From above downward large ulcers seen at intervals of two or three feet, extending transversely, the average size being half an inch wide by an inch and a half long, shape oval, some nearly encircling the intestine, deeply excavated, involving the muscular coats, edges thickened and reddened, showing an active ulcerative process; upon the peritoneal surface there is a puckering seen, showing cicatrization; in one or two ulcers this is marked enough to produce a considerable diminution of the lumen of the intestine. In many cases miliary tubercles are seen upon the peritoneal surface; no perforations. The largest ulcers are just above the ileocæcal valve; these are an inch and a half wide and two inches and half long, and one surrounds the margin of the valve; considerable localized inflammation of the peritonæum covering the intestine in this region, and it is covered with miliary tubercles; the ulcers in almost every case begin within Peyer's patches. The solitary follicles throughout the small intestine are enlarged about a pin's head in size. In the upper part of the small intestine the mucous membrane generally is healthy. In the lower two or three feet there are evidences of quite an intense enteritis—congestion, swelling, and œdema.

"*Large Intestine.*—Two or three tubercular nodules, reddened, elevated, broken down, and no ulcers; mucous membrane normal.

"*The Mesenteric Glands.*—About half an inch in diameter; a few are cheesy, and one entirely calcareous."

The speaker exhibited specimens of the tuberculous intestine, and thought that probably the ulcerative processes had antedated the joint trouble. It was, of course, an open question as to whether there was any connection with these foci of disease and the joint lesions.

The Question as to what produces and what prevents Ankylosis of Joints was the title of a paper by Dr. A. M. Phelps. The speaker also exhibited a hip splint designed by himself with adjustments intended to minimize irritation at the hip joint by equalizing the various muscular tensions.

A long argument then ensued, in which Dr. Low, Dr. Spencer, Dr. Powers, Dr. Gibney, Dr. Judson, and Dr. Ridlon took part, as to the surgical merits of treatment by immobilization and the value of the several appliances for the mechanical treatment of diseases of the hip.

Dr. W. R. Townsend said it was not necessary to lay so much stress upon any particular form of appliance. Each device had its special uses. It appeared from what had been said that there was a tendency to fit cases to splints rather than splints to the cases.

A Statistical Paper on Club-foot.—Dr. W. R. Townsend, of New York, read a paper on this subject. It contained an analysis of 2,386 cases seen at the Hospital for Ruptured and Crippled, New York, during the past nineteen years. Of this number, 915 were congenital and 1,471 non-congenital. Of the congenital, 567 were in males and 348 in females. Of the non-congenital, 744 were in males and 727 in females. Of both classes, 1,311 were in males and 1,075 in females.

He also presented tables showing the frequency with which the deformity was found in maternity hospitals, as compared with all the births, as against other congenital deformities, and showed the proportion of all cases to other deformities as met with in orthopædic hospitals. In congenital club-foot the most frequent form was equino-varus, and both feet were more frequently affected than one, and the right more often than the left. The next most frequent form were varus, valgus, and equinus, the rarest being cavus and calcaneo-varus. About 76 per cent. of the congenital cases in males were equino-varus, and about 67 per cent. in females.

Of the non-congenital forms, the paralytic, resulting from poliomyelitis anterior, was most frequent, equino-varus, equinus, and calcaneus being most often met with. Of 581 cases of flat-foot, 283 were in males and 298 in females, both feet being most frequently affected. Other tables were presented showing the exact number of each variety, and analyses of tables by Duval, Lannelongue, Hagen, Roberts, Detmold, Mütter, etc., were also given.

Fever and its Treatment.—Dr. A. L. Loomis read a paper on this subject. His remarks, he said, were intended as suggestive rather than exhaustive. If fever was studied, either from a clinical or pathological standpoint, one soon became convinced that rise of body temperature or an increase or decrease in heat production and heat dissipation were only the appreciable expressions of those processes which attended and depended upon morbid changes in the blood and tissues of the body. These blood and tissue changes were expressed in temperature by a disturbance of the normal ratio between heat production and heat dissipation, and it, as well as the phenomena of fever, were only symptoms of such changes. The prominent factors which determined this ratio were: First, processes of oxidation, which resulted in the production of heat, urea, and carbonic acid. In the lighter degrees of fever the elements which underwent oxidation were mainly the excess of nutritive material in the blood, and also of heat stored in the cells. In the more severe forms of fever with higher temperatures, and even in prolonged fevers of low grade, the oxidation took place in the parenchymatous elements of the tissues, resulting in wasting and atrophy. A second factor was the vaso-motor control of the peripheral circulation. In the early stage of fever peripheral circulation was often decreased, and the surface radiation fell below normal. Subsequently vaso-motor dilatation allowed of free circulation and an increased radiation. Activity of the sweat glands was another factor which in some degree determined this ratio. Although heat radiation might be increased even when the skin was dry and the glands inactive, the decrease of surface temperature went on more rapidly when the surface was bathed in perspiration. The marked relief experienced by fever patients when sweating took place had suggested the presence of some other factor than evaporation and heat absorption, and had led to the belief that the febrile poison could be eliminated by a critical sweat. It was more probable that the sweating was the result rather than the cause of the febrile remission. Recent experiments had determined that heat production, as it depended upon oxidation in the tissues and glands, was regulated by a thermogenic center. The exact position of this center had not been definitely settled, but all investigators had agreed in placing it above the medulla, thus distinguishing it from the vaso-motor center. The causes of fever, clinically, might be classed under two heads—the nervous and the hæmic. Under the nervous might be included all those conditions which mechanically affected some portion of the nervous system unassociated with inflammatory changes. The hæmic included all those conditions in which irritating elements were known or supposed to be present in the blood. There were four classes of pyogenic elements which might be regarded as hæmic causes of fever. First, elements developed by perversion in the nutritive processes. This perversion might be in the primary digestion, in secondary metabolism, in retrograde changes, or in excretory functions, and resulted in the production of new and the accumulation of normal poisonous elements in the blood. Second, leucomaines, or those poisons which were developed from inflammatory and exudative products. Third, ptomaines, or the bacterial elements with which they were associated. From recent studies of the subject, the ptomaines developed by bacterial growth had come to be regarded as the cause of infectious fevers, but the exact relation which bacteria and their ptomaines bore to the pathological changes of fever were not definitely determined. It seemed probable, however, that in most cases the ptomaine was the active poison, although bacteria penetrated the tissues and were found in the blood and substance of organs. At present we were ignorant of the exact manner in which these poisonous elements excited these metabolic processes which were productive of fever. They might act directly upon the parenchymatous elements of tissues to increase metabolism, or, if all protoplasmic action was under the control of the nervous system, as some supposed, they might, by their actions on the thermogenic centers, either by stimulation or inhibition, excite those metabolic processes in the tissues which resulted in heat production. The general drift of opinion was toward the belief that the pyogenic elements acted primarily on such centers to produce fever. The question was now being asked if all fevers had not some form of infecting agent as their cause. The experiments of Dr. Roussy, of Paris, had demonstrated that many soluble ferments when introduced into the human organism determined a febrile condition. In all infectious fevers it was a well-established fact that the blood and tissues underwent certain characteristic changes. The fibrin and albumin factors were diminished, the white cells were increased, the corpuscles swollen, crenated, and often broken down. The parenchymatous elements throughout the body suffered varying degrees of cloudy swelling and fatty degeneration. Formerly all these changes were regarded as the direct result of high temperature. Recently it had been satisfactorily demonstrated that they occurred in fevers of low temperatures and that the parenchymatous changes depended upon diminished or perverted nutrition, the result of the excessive metabolism which caused the increased heat. The dangerous effects of high temperatures on the nervous system had, as it seemed, been overestimated. Although it had been determined, both by clinical observation and physiological experiment, that there was a point at which increase of body temperature caused collapse of nerve force and speedy death, such temperatures were seldom reached in fevers. Temperatures of 103° or 104° F. had come to occupy a position of secondary importance with most clinicians. Fever was regarded as a complex process, of which high temperature was a prominent, but not always the most important, feature. Our treatment of fever would vary with our views as to the dangers of high temperatures. Those who believed that all the grave symptoms of febrile conditions were referable to high temperatures would employ antipyretics early and persistently, while those who did not recognize any necessary relation between the temperature range and the other febrile symptoms would resort to these remedies less frequently. If high temperature ranges were readily reduced by mild antipyretic measures, the patient at the same time being much more comfortable, with a decrease in the nervous symptoms, they might be employed with advantage, but when powerful antipyretic remedies had but a temporary effect upon the temperature, and their use was followed by great nervous depression, they were better omitted. In a general way antipyretics might be divided into two classes—the application of cold to the surface, and the internal administration of drugs. A cold bath would often produce a greater and more prolonged reduction of temperature than could be accounted for simply by heat abstraction. This sedative nervous effect was regarded as a far more valuable guide in their use than the effect upon the temperature range alone. When external abstraction of heat was followed by decrease of nervous irritability, as evidenced by decrease of muscular twitchings, cessation of delirium, or the advent of sleep after prolonged wakefulness, one might be assured that the applications were acting remedially, whatever might have been their effect on the temperature. When, on the other hand, the opposite conditions followed with evidences of nervous shock or irritation, no reduction of temperature which they might accomplish could justify the continuance of such measures. Unbiased investigation would justify the statement that while in particular instances cold baths might be advantageously employed for the palliation of certain conditions which we did not know how to abate in other ways, their routine adoption was to be deprecated. In the employment of cold in the antipyretic treatment of fever it should be borne in mind that such treatment was usually directed against only one symptom—high temperature—and on this basis it should never be resorted to unless the temperature range had reached a dangerous point. A temperature of 104° F. might be regarded as the lowest danger point. If the object of its use was simply to abstract heat, cold should never be employed more severely than was necessary to accomplish the desired result. For the past two years the speaker had used, in the treatment of typhoid fever, the cold coil to the abdomen and had not found it necessary to resort to any of the more severe methods for temperature reduction. He believed that the early and constant use of the coil had kept the temperature below the danger point. If the only therapeutic effect of cold baths, employed according to Brandt's method, was the reduction of temperature, this could be successfully combated by other and less troublesome measures. If, on the other hand, the beneficial effect was due to the control which they exercised in the thermogenic and vaso-motor centers, their employment must be advocated on an entirely different basis than the one usually advanced. Internal antipyretics included all those substances which had been found capable of reducing body temperature when taken into the system. It seemed probable that these remedies might be of two classes —those which acted primarily on the thermogenic centers, and those which neutralized or in some manner rendered inert pyogenic substances in the blood. Clinically, we knew that in different conditions different internal antipyretics had unequal therapeutic values. At present antipyrine, antifebrine, and phenacetin were the favorites in the specific fevers and conditions where nervous irritation was present and prominent. Quinine was preferable in malarial fevers and in surgical fever attended with suppuration, in septic conditions or simple inflammatory fever. Salol and the salicylates were employed rather for their primary antiseptic action upon the intestinal contents and only secondarily as antipyretics. Opium and sedatives probably acted simply through their effects upon nervous irritation. It should be a rule never to give large doses of any internal antipyretic. The sudden reduction of temperature was liable to be followed by dangerous depression and collapse. Small doses frequently repeated accomplished all that was to be desired. Temperature reduction was not to be attempted unless it exceeded the danger point. In all cases it was more important to watch the effects of antipyretics upon the heart and vaso-motor control of the circulation than upon the temperature range. When either were disturbed by their use they should be discontinued. If the destructive metamorphosis which took place in the tissues of the body in fever was due to the pyogenic substance which produced the fever, and not to the abnormal temperature, it became evident that our duty to the patient could not be discharged by the employment of any measure which was directed to the relief of only one of its symptoms. In the light of those recent experiments which demonstrated that the blood serum was the only operative germicide within the animal organism, and that its germicidal power was in proportion to its vitalizing power, we were forced to the position that in the treatment of all acute infectious diseases our successes would be in the judicious use of those measures which Dr. Chambers long ago designated as "restoratives."

Isolation of Consumptives.—Dr. P. H. Kretzschmar, of Brooklyn, in the course of a paper on this subject, said that careful consideration had strengthened his former opinion as to the non-feasibility, cruelty, and absurdity of any attempt to carry into practical effect the teachings of those who advocated isolation of consumptives for the purpose of diminishing or destroying the danger of infection, although it was admitted that, theoretically, the isolation of all consumptives would do much to lessen the quantity of tubercle bacilli floating in the air, and thereby the danger of infection.

The Geographical Distribution of Tuberculous and Dairy Cattle.—Dr. E. F. Brush read a paper with this title. The author thought that, if he could show by reputable authority that the geographical distribution of human tuberculosis was coincident with the distribution of bovines affected with this disease, the inference would be that they stood to each other in the relation of cause and effect. In studying the geographical distribution of pulmonary consumption, the necessity for separating imported and indigenous cases in any table of statistics was absolute in order to reach any conclusion as to the habits of the people and their effects with reference to this disease. Many other diseases were conveyed to the human race by animals. Of this no doubt existed; but in the case of tuberculosis the slow development of the disease was a disturbing factor in reaching conclusions. The danger of animals being infected by man was exceedingly small; the danger of man being infected by animals was practically the only danger, and even this could be avoided. He thought that the proposition for isolating human consumptives was leading us away from the chief danger. In lands like Egypt the indigenous inhabitants retained immunity while associating for long periods with consumptive immigrants, while in regions like Australia and the Sandwich Islands the inhabitants had become infected after the introduction of dairy cattle. The best dairy-cattle breeds were the tubercular breeds, while some of the breeds not classed by the breeder as dairy cattle were exempt from tuberculosis owing to their vigor and health. In all dairy countries the prevalence of tubercular consumption was a settled fact, while the only countries at all in doubt were those where the dairy consisted of other than domestic cows. He spoke of the Chinese as a people who did not use milk, while the Tartars in that country were meat and milk consumers, and therefore the observations of medical men were very confusing. They confessed that they could not understand why the disease prevailed among the dominant Tartar class, but not among the poor Chinese, who, according to all preconceived notions, ought to be tubercular. In South America, where cattle were exceedingly numerous but the use of milk almost unknown, or used after being boiled only, the natives still enjoyed immunity. The speaker, taking a geographical square of ten degrees, embracing Spain and Morocco, contrasted the two countries. The climatic and other conditions were pretty nearly equal; but Morocco, where there were no European dairy cattle, was exempt from tuberculosis, while in Spain and Portugal, where dairying was carried on in the European style, tuberculosis prevailed. He thought that there was no great necessity for alarm, because the benefits conferred by the bovine race far outweighed the burden of the disease. If there was no way of remedying the disease, he would be in favor of letting affairs remain as they were. He expressed, however, a strong opinion that dairy and beef cattle could be bred in such a way as to eliminate tuberculosis, but this could only be done by increasing the price of both beef and milk.

The Address on Surgery.—Dr. Alfred Mercer, of Syracuse, in the course of his address on surgery, and after going over the beaten path in survey of the progress of surgical science from the date of his license to practice, which had antedated the use of anæsthetics, to the present time, went on to give some special consideration to the subject of antiseptic surgery. He said that from its inception until now it had undergone many changes, both as to the agents used and the manner of their employment, before, during, and after operations. Theoretically, we might expect that any agent which would prove destructive to microscopic life would act more or less injuriously on the higher forms of life, and such he believed had been the fact. Search was still going on for an agent innocent of evil to human tissues and yet destructive to microscopic life.

It was a question whether nature or art could furnish such an agent. While germicidal agents might be auxiliary to surgical success under the too often existing impure conditions of the atmosphere, still it did not follow that they were necessary in a hygienic atmosphere. It had been learned that the carbolized spray, once thought to be so important, was not only unessential, but was a good thing to be rid of for both patient and operator. From the dropping out of the use of the spray surgeons had drifted in two directions. The large majority had followed the Listerian thought that the germs of the atmosphere must be destroyed by the use of some agent applied to wounds to insure surgical success. The few, for reasons not always given, had cautiously felt their way, gradually reducing the strength of their antiseptic agents, and with gratifying results, and had finally abandoned them altogether for simple aseptic cleanliness. The published results of both parties were now available for study and comparison. From these might be gathered the equal or superior success of aseptic and clean surgery, discarding all poisonous agents, compared with antiseptic surgery. Perhaps the data up to the present time were not sufficient to warrant satisfactory conclusions in favor of either one view or the other, but the evidence was sufficient to call for hesitation in the positiveness of our opinions and a thoughtful review of our surgical methods to simplify them if we could. Still it must be remembered that even if it was found that the non-antiseptic surgery of to-day was giving equal results with the antiseptic, the latter was entitled to all the credit for the better surgery of to-day compared with that of twenty-five years ago.

Diagnosis and Treatment of Fractures through the Anatomical Neck of the Humerus.—Dr. C. A. Powers, of New York, read a paper on this subject, in which he went into exhaustive review of a large number of cases of this class of fractures which had come under the notice of himself and others at Chambers Street Hospital. He tentatively submitted the following conclusions: 1. That of fractures which occurred in the upper third of the humerus, those traversing its diameter above the surgical neck formed a much larger proportion than generally supposed. 2. That in a given case of shoulder-joint traumatism the surgeon should, at the earliest possible moment, and in the most scrupulously careful manner, examine the seat of the injury, anæsthesia of the patient being indispensable. 3. Diagnosis of fracture above the surgical neck might be based on tuberosity rotation, accompanied by non-rotation of the head, and the presence of a diffuse bony crepitus. Other symptoms—such as pain, disability, swelling, deformity, ecchymosis, and local tenderness—while confirmatory, were not positive. 4. Deformity being generally absent, simple but complete confinement, preferably by a plaster-of-Paris splint, was the best form of treatment. 5. The prognosis was generally good for bony union and ultimate restoration of almost perfect joint function.

Report of Five Cases of Suprapubic Cystotomy for Tumors of the Bladder and Vesical Calculi.—Dr. Hailes, of Albany, in the absence of the author, Dr. A. Vander Veer, read a paper on this subject.

Nephro-lithotomy.—Dr. E. L. Keyes, in a paper on this subject, detailed a number of cases in which he had made exploratory incisions, and advocated the transverse posterior incision in cases of suspected stone in the kidney. It was free from danger. The peritoneal incision might be reserved until the indications demanded it.

The Surgical Treatment of Erysipelas.—By invitation, Dr. Willy Meyer, of New York, read a paper on this subject, in which he suggested the practical adoption in this country of the method advocated abroad of determining a line of demarcation to erysipelatous development by the environment of a limiting incision. The speaker's points were ably sustained by clinical hypotheses and elucidated by explanatory diagrams.

Treatment of Diseases of the Rectum based upon Anatomical Study.—Dr. Seneca D. Powell, of New York, described the methods by which he was in the habit of dealing with the conditions of prolapse of the rectum and constipation. He introduced his subject by a consideration of the physiological functions of the various muscles entering into the act of defecation, and the conditions which it might be presumed arose when the normal equilibrium of these physiological forces became pathologically disturbed. The theory of his treatment in prolapse was that prolonged support to a weakened muscle resulted in its rapid recuperation, and this was especially true of the sphincter ani. To effect this support, a strip of rubber adhesive plaster, about one inch in width, was fastened in the neighborhood of the groin, on the side opposite to the operator. Then, traction being made upon this as it was brought over the gluteal muscle, the latter would be rolled into the sulcus, the muscle of the opposite side being at the same time also rolled toward the center, and the plaster, being brought down upon the thigh, secured retention of this new position. By it the perinæum was lifted, and the points of two muscular attachments being brought nearer together, they were thus rendered inactive. This strip of plaster should be renewed constantly, and the measure persisted in, if necessary, for months. By it he had for a number of years treated the most intractable cases of prolapse with uniform success. There existed no necessity for suppositories or any astringent injections, and he now never found it necessary to resort to surgical procedures to restore the gut to its normal position. As to constipation, the balance of power in this condition was in favor of the sphincter muscle, and this might be surgically dealt with by an incision into the external sphincter to equalize the power of the different sets of muscles. The methods advocated by the speaker were illustrated by diagrams.

A Common but rarely Described Form of Cystitis in Women.—This was the title of a paper read by Dr. Robert T. Morris, of New York. He said that the clitoris and the three sphincters—that of the anus, the vagina, and the bladder—might be taken as representing the symbol 1,000, and this was indicative of the number of the patient's troubles when any one of the three sphincters adopted a habit of spasm. Fissure of the neck of the bladder was apparently much more commonly met with than fissure of the anus, but was seldom recognized. The fissure could be seen by gently distending the urethra with proper specula, and throwing in light with a head mirror. It was a narrow, grayish ulcer, similar to a narrow aphthous spot in the mouth. The primary symptoms were pain on urination, lasting tenesmus after urination, and frequent urination. Secondarily came catarrhal cystitis and nervous derangements. The ulcer might be caused by the compression of folds of urethral mucous membrane by a uterus out of place, from a scratch by a passing bit of gravel, or it might be simply microbic, as the aphthæ of the mouth were now known to be. Treatment consisted in dilating the urethra slowly with the finger, to accomplish the same end as when we stretched the sphincter of the anus for fissure in that locality. Immediately after urination a few drops of a five-per-cent. cocaine solution injected at the neck of the bladder would at once control the painful tenesmus. The wool tampon for the vagina would give a feeling of great comfort and lessen tendency to spasm of the bladder. Absorbent cotton should never be used for the tampon, because when it became stony in a few hours it irritated the bladder just as it usually did the uterus.

The above treatment failing to cure, the bladder should be opened to give the urethra rest. This was best done by introducing a Sims uterine dilator through the urethra, pressing the bladder-wall backward, and then slipping a scalpel through the wall between the blades, entering from the vaginal surface. In one aggravated case recently he had opened the bladder above the pubes and poured into it, twice daily, an ounce of a mixture of boroglyceride and glycerin. Boroglyceride and glycerin was the best thing for any sort of hypertrophic catarrh. Clots in the bladder should be digested out with pepsin. If the bladder was acidulated with citric acid, pepsin would digest the thick tenacious muco-pus quickly, and gave patients great relief. In old cases with contracted bladder, expansion daily with Davidson's syringe and warm boric-acid solution would gradually enable the bladder to hold a pint or more of urine. Skene and Emmet, in their latest works, had referred to this subject of fissure of the neck of the bladder; but English literature previously contained almost nothing on the subject, although the disease in question was commonly met with.

A History of Two Hundred and Fifty-five Cases of Excision of the Superior Maxilla.—Dr. J. D. Bryant, in a paper with this title, after reviewing the history in general of such operations, and giving the views of the different operators upon the subject, took up the consideration of the special, immediate, and remote results which followed the operation, and the best means of obviating ill effects. Hæmorrhage and shock were referred to only in connection with the immediate results, while deformity of face, utterance, and disease recurrence composed the items of remote consequence. In connection with the prevention of hæmorrhage and its consequent shock, he would offer no suggestions other than those already well known to the profession, but emphasized one expedient that had been carried into effect by Lizars as long ago as 1830, which was preliminary ligature of the external carotid. This was to be done especially when the nature of the growth warranted the belief that profuse or dangerous bleeding would be encountered. Up to the present writing, this vessel had been ligatured no less than eighty-five times, eight of which had occurred in the speaker's practice, and in no instance had death or dangerous secondary hæmorrhage followed as the direct cause of the ligation. Surely such a record as this regarding the ligature of the external carotid could not be gainsaid on the question of safety. Of the two hundred and fifty-five cases of excision of the superior maxilla reported, but two had occurred in the speaker's practice. In one of these two cases the entire superior maxilla and the malar bone were removed for carcinoma involving these bones. The external carotid was tied as a preliminary measure. The growth was very prominent and extremely vascular. The total amount of hæmorrhage was trifling, coming only from the opposite facial and the anterior palatine branches of the opposite internal maxillary. At the termination of the operation, which had lasted scarcely an hour, the pulse of the patient—a man sixty-nine years of age—was but 74. A rapid recovery from the operation itself had ensued. As to the propriety of ligature of the common carotid for the purpose of prevention of primary or secondary hæmorrhage in these operations, the known results would be briefly cited. Thirty-eight cases had been reported in which the common carotid was ligatured preparatory to or after removal of the superior and inferior maxillæ. Of this number, nine, or twenty-four per cent., had died. When it was noted that the death-rate of two hundred and thirty-one cases of removal of the superior maxilla was twelve per cent. only, then indeed should the preparatory ligature of the common carotid for the purpose of this removal be condemned. The deformity of face and of utterance required but a moment's consideration. As soon as the healing was completed, and even before, if the disease was malignant, the services of a dentist should be employed. The introduction of a vulcanized rubber "plumper," combined with an obturator, would be sufficient to remedy almost entirely any defects. The question of disease recurrence was indeed most important to the patient. Bearing on this part of the subject, the speaker had but one suggestion to make, which was as to the influence on disease recurrence of ligature of the vessels nourishing the region from which it sprang. While he did not believe that this step would do much, if anything, toward the prevention of the recurrence, still he thought it might defer the event and lessen the rapidity of the growth. If such was the case, then ligature of one or of both external carotids might be said to meet two important practical indications in malignant disease of the regions supplied by these vessels. In illustration of this principle, the speaker related in detail the history of the second and last of his own cases:

W. B., aged twenty-two, family and personal histories good. In 1884 the patient had noticed the usual symptoms indicative of the existence of a polypoid obstruction of the left nostril. In the year following, the existence of such a growth was demonstrated, and a portion of it removed. From this time until 1888 portions of the growth were removed at varying intervals, and the extent of its attachment and nature were frequently determined. Microscopical examination had shown it to be a myxo-sarcoma. It was attached to the basilar process of the occipital bone, to the posterior and left wall of the pharynx, and also to the palate bone and the internal plate of the sphenoid bone. In November, 1886, a spontaneous and very severe hæmorrhage had occurred from it; the growth was also rapidly increasing in size. Repeated hæmorrhages at long intervals occurred until the patient was almost exsanguinated, this going on until the spring of 1888. At this time the patient suffered from pressure symptoms referable to the hard and soft palate, and also to the supramaxillary and auriculo-temporal branches of the fifth pair. Breathing was impossible through the nostrils. The tumor had filled the upper part of the pharynx so completely that the index finger could be introduced only with difficulty between it and the right side of the wall of the cavity; this act was often followed by quite severe but temporary hæmorrhage. A small bony spiculum was seen protruding from the inferior surface of the soft palate at the junction of this structure with the hard palate. In June of 1888 the external carotids were ligated simultaneously. The wounds healed by primary union, and at the end of a week all pain had ceased. The tumor had also diminished to such a degree that not only had the previous bulging of the palate caused by it disappeared, but the index finger could easily explore the dimensions and again determine the attachments of the growth. Nine days subsequently the left superior maxilla was removed below the orbital plate, thus exposing freely the left side of the tumor. There was but one arterial spurt of sufficient size to require ligature during the entire procedure, and this was at the situation of the anastomosis of the facial and ophthalmic arteries. The final step, the removal of the tumor, was not done, nor could the speaker say that he regretted the omission, in view of the subsequent developments. The reasons for the non-removal were politic ones entirely, foreign to any contingency that was apprehended from the attempt. The snare was employed again, and also strong injections of carbolic acid. The latter removed portions of the structure of the growth quite rapidly by a process of inoffensive sloughing and disintegration. An injection had caused such severe pain that it had to be discontinued. The patient had now suffered no inconvenience and no pain whatever from the tumor, which when last seen, two weeks since, was much smaller than it was three months before. It was harder, and handling caused no pain or bleeding. In this case the results on the pharyngeal growths that had followed ligature of the external carotids were due either to coincidence or to modification of the circulation of the growth. The fact that a rapid diminution of the size and painfulness of the tumor had followed ligature was indisputable, and it had seemed to remove these results from the realm of coincidence entirely. The fact that the lessening of the arterial supply of a vascular growth would diminish, temporarily at least, its size, and consequently the pain due to pressure from it, must be admitted. Surely the establishment of collateral circulation should have, long ere this, supplied it with a liberal allowance of blood. It was possible that the use of the carbolic-acid injection and the snare since the ligation had led to continued retrogression of the tumor. However, the snaring had had no effect before the ligation, and it was therefore unfair to attribute any to this procedure after ligation. Concluding his paper, the speaker offered the following points for consideration: 1. That excision of the superior maxilla was not a dangerous operation. 2. That, contrary to general belief, excision of both superior maxillæ was not a specially dangerous procedure. 3. That while severe hæmorrhage was not frequent in this operation, still its effects were to be feared more than any other result of the operation. 4. That removal of the upper jaw for the cure of bony and fibrous tumors, and the removal of naso-pharyngeal polypi, was attended frequently by severe and fatal hæmorrhages. 5. That ligation of one or both external carotids was a safe and commendable procedure when average hæmorrhage was apprehended as likely to result from operations within the area of their distribution. 6. That ligation of one or both of these arteries might delay the return, or hinder the development of a morbid growth, if it was implanted in tissues supplied with blood by these vessels. 7. That, all things being equal, ligation of the common carotid for the purpose of controlling the circulation of the external was unwise, unsurgical, and unwarrantable. 8. That complete removals were three times as fatal as incomplete removals of single superior maxillæ, irrespective of the side removed.

Chronic Nasal Catarrh.—The conclusions of Dr. O. B. Douglas as to the causes, course, and cure of the above affection were as follows: 1. That chronic nasal catarrh was not a disease *per se* or primal, but rather a symptom or result of pre-existing causes, chief of which was traumatism, inducing contact of surfaces, affording a nidus for disease germs, foreign irritants, and retained acrid secretions, so inflaming contiguous tissue and producing purulent products. Atrophy or pseudo-atrophy might result. 2. Chronic nasal catarrh was not a simple condition, but was complex to the highest degree, far-reaching and serious in its complications, persistent and baneful in all its relations, tending ever to extend and grow worse. Therefore it was worthy of most careful study by every physician, offering as it did opportunity for great achievements on the part of the diligent student and skillful surgeon. 3. Chronic nasal catarrh was curable in a large majority of cases, yielding to proper treatment as certainly as any other complex disease. It being due to or connected with obstructions, the indications were to first remove the causes. This required surgical interference backed by skill and experience, which most might acquire. Subsequent cleansing, soothing and healing, as after every surgical operation, completed the cure. Any instruments or means with which the operator was most familiar might be used, so long as the work was done thoroughly and with judgment.

Seven Consecutive Successful Cases of Intubation of the Larynx for Diphtheritic Croup.—Dr. W. Hailes, Jr., of Albany, reported these cases, and in the comments which followed was complimented on his results.

The Prevention of Tubercular Laryngitis.—This was the title of a paper by Dr. B. F. Westbrook, of Brooklyn. (To be published.)

Nasal Intubation.—A paper with this title was read by Dr. D. H. Goodwillie. (To be published.)

Naso-pharyngeal Epithelioma.—Dr. S. Allan Fox, of Brooklyn, read a paper reporting in detail a case of malignant growth of the above nature, which elicited considerable expression of interest. (To be published.)

State Medical Reform obstructed by the Legislature.—Dr. St. John Roosa presented the report of the Committee on Legislation. This document embodied the experiences of the committee in its efforts to secure legislation at the hands of the Senate. The first bill had been one to regulate the detention of persons suffering from acute and chronic insanity in State rather than in county asylums. It was thought that if the political element could be eliminated from the contest the bill might ultimately stand a chance of becoming law. The committee, supported by efforts on the part of the State Charities Aid Association, the New York Academy of Medicine, and the Neurological Society, had labored faithfully on behalf of this measure. It had been passed in the Senate but was negatived in the Assembly. Persistence would probably eventually insure success. A bill had been framed providing for a State board of nine examiners to be selected by the Board of Regents. Five members of this board were to be appointed on the recommendation of the State Medical Society, three on that of the Homœopathic, and one on the recommendation of the Eclectic Society of the State of New York. A section of this bill had been so framed that if a graduate of a homœopathic or eclectic college so desired he might select his own examiner from the board on the subjects of theory and practice and materia medica. The merits of the bill had been earnestly advocated at the various meetings of the committee of the Senate having it in charge. It had, however, met with the opposition of the homœopathic and eclectic schools, the latter institution having been represented by counsel. The opinion of the Senate committee was that with such conflicting views among the doctors it would be useless to make any report upon the bill, which had accordingly died peacefully in committee. Every plan for securing the passage of a bill regulating the practice of medicine in New York, with the view of having the largest body of practitioners afforded the greatest representation on the Board of State Examiners, had been tried, but in vain. At the present time there was a bill pending in the Legislature calling for the appointment of three State Boards of Examiners, one for each of the before-mentioned schools. This was absurd. The hydropathists, electropathists, and vaporpathists would next be asking for a State Board of Examiners. There was nothing left but to advocate that though the colleges might have a right to grant the degree of doctor of medicine, the State, through its own law-makers, should regulate the practice of physic in the State of New York. This would at least prevent the mushroom graduate of colleges in neighboring States from practicing side by side, with the same rights and privileges, with the State licensed practitioner. During the year a bill had been passed, without the action of the society's committee, making it obligatory upon students entering a medical college to show certificates of previous academic training equivalent to the regent's examination, or, failing this, to oblige them to pass an examination on the preliminary academic studies.

The Election of Officers.—The officers elected for the ensuing year were: President, Dr. William W. Potter, Buffalo; vice-president, Dr. Lewis S. Pilcher, Brooklyn; secretary, Dr. Frederick C. Curtis, Albany; treasurer, Dr. C. H. Porter, Albany.

Book Notices.

A Treatise on Diseases of the Nose and Throat, in Two Volumes. By Francke Huntington Bosworth, A. M., M. D., Professor of Diseases of the Throat in Bellevue Hospital Medical College, New York, etc. Volume One. Diseases of the Nose and Naso-pharynx. With 4 Colored Plates and 182 Woodcuts. New York: William Wood & Company, 1889. Pp. xviii–3 to 670.

The author has presented a very complete treatise on the subjects considered in Volume I of his work. The first section of the three subdivisions is devoted to diseases of the nasal passages. Under this heading is introduced a chapter on hay fever, or "vaso-motor rhinitis," also one on asthma, or "vaso-motor bronchitis." He does not believe in the reflex and neurotic theories with reference to the causation of these two diseases, but says that he has never known a case of hay fever or asthma to occur without the existence of obstructive lesions of the nose or upper air-passages. This is making a very broad statement when the opinions of some of the leading authorities on the subject are considered. Dr. Bosworth depends entirely upon the cocaine spray to relieve the paroxysms of hay fever and asthma and to modify the symptoms in other nasal diseases characterized by vascular turgescence. He seems not to have had the severe unpleasant experiences from the use of cocaine that are being met with by recent writers on the subject. Several cases have been reported of stenosis of the nasal passages due to the continued use of the spray, with alteration of nasal function and impairment of nutrition. The remainder of the section is given to deformities of the septum, to syphilis of the nasal passages, and to morbid growths and diseases of the accessory sinuses. In the second section diseases of the naso-pharynx are taken up, with a chapter on hypertrophy of the pharyngeal tonsil, or adenoid growths of the vault of the pharynx. The third section is devoted to the external surgery of the nose, with full descriptions and illustrations of the various surgical procedures which have been resorted to for obtaining freer access to the nasal cavities and the naso-pharynx. Possibly the work may contain a few conclusions on the part of the author which are deemed by others as yet open to argumentative research; still it is replete with valuable information based upon a large experience.

A Text-book of Practical Medicine, designed for the Use of Students and Practitioners of Medicine. By Alfred L. Loomis, M. D., LL. D., Professor of Pathology and Practical Medicine in the Medical Department of the University of the City of New York, etc. Eighth Edition, revised and enlarged. With Two Hundred and Fifteen Illustrations. New York: William Wood and Company, 1889. Pp. xvii–1147.

This work has been well and favorably known by the profession for a number of years, and an extended discussion of its merits would be superfluous. That the present edition is fully the equal of any which has preceded it is a sufficient guarantee of its high character and value. It would be classed as a rather conservative work, though the advances which have been made during the last four years have rendered some marked changes necessary. The work has not only been carefully revised, but has been largely rewritten, and changes have been made which are the result of more exact knowledge regarding the ætiology and pathology of disease. The important additions include descriptions of the more frequent pathological processes and a detailed statement of the methods employed in bacteriological study, with an enumeration of the distinguishing characteristics of those micro-organisms which are at present regarded as pathogenic. The author classes phthisis as an infectious disease, though it is still retained under pulmonary diseases for description, and has changed its name to pulmonary tuberculosis. Another step in advance in nomenclature is the substitution of the term nephritis for the unscientific one Bright's disease. Dr. Loomis's pleasant style of writing is well known, and this work will commend itself to the profession. It is not too bulky for daily use, and yet it treats of each subject with sufficient fullness of detail to render it serviceable as a book of reference, especially for the practitioner whose spare time is limited.

Traité des maladies du testicule et de ses annexes. Par Ch. Monod, professeur agrégé à la Faculté de médecine de Paris, etc., et O. Terrillon, professeur agrégé à la Faculté de médecine de Paris, etc. Avec 92 figures dans le texte. Paris: G. Masson, 1889. Pp. xi–806.

Excepting the works of Curling and Osborne, there is no treatise on diseases of the testicle exclusively, and the excellent volume that has been published by Dr. Monod and Dr. Terrillon is exhaustive in bringing their subject to the point of our present knowledge of diseases of the testicle, epididymis, tunica vaginalis, and vas deferens. Diseases of the scrotum and seminal vesicles are not included in the scope of the work, nor are the functional diseases, spermatorrhœa, azoospermia, etc., touched upon. Each chapter is followed by bibliographical references, and American surgeons are frequently quoted. Illustrations are employed wherever they will add to the value of the text. We note that the authors favor the iodine treatment for hydrocele; and in tuberculous testicles they favor excision of the gland, as of a tuberculous focus in any other locality. The necessity for asepsis is urged in all operations, even in so simple a procedure as introducing an aspirator needle.

The Physiology of the Domestic Animals. A Text-book for Veterinary and Medical Students and Practitioners. By Robert Meade Smith, A. M., M. D., Professor of Comparative Physiology in the University of Pennsylvania, etc. With over Four Hundred Illustrations. Philadelphia and London: F. A. Davis, 1889. Pp. xiii–938. [Price, $6.]

The author's experience as a teacher has undoubtedly informed him of the learning that is essential to an acquaintance with physiology, and in no work on human physiology is there a better exposition of physiological physics and chemistry than in this work. Indeed, so careful is the author that nothing may be omitted that he even refers to spontaneous generation as not satisfactorily established, although no reputable biologist now believes this probably ever did or ever will occur. In the treatment of the physiology of the domestic animals the author has collated the latest and most reliable results, presenting his facts in so terse and lucid a manner that the reader can not mistake the meaning. The liberal employment of carefully selected illustrations—many of them, particularly of histology and of the nervous system, being colored—adds greatly to the value of the book.

The Story of the Bacteria and their Relations to Health and Disease. By T. Mitchell Prudden, M. D. New York and London: G. P. Putnam's Sons, 1889. Pp. 143. [Price, 75 cents.]

This little work is an excellent popular exposition of bacteriology, its clearness of expression and freedom from technicalities making it a work that a physician can recommend to a layman desirous of acquiring information on the subject under consideration. The book is furnished with an excellent index, and it seems as if a few illustrations of the different forms of bacteria, etc., would not have greatly increased the bulk of the volume while materially assisting in elucidating the text. The omission of any reference to rabies and tetanus is noticed; also that the author does not concur with Cornet in absolutely condemning ordinary wells. We trust it will not be considered captious criticism if we express surprise at the use of such colloquialisms as "catch on" and "own hook," and such an expression as the *esprit de corps* of cell communities in the body.

An Experimental Study in the Domain of Hypnotism. By Dr. R. von Krafft-Ebing, Professor of Psychiatry and Nervous Diseases in the Royal University of Gratz, Austria. Translated from the German by Charles G. Chaddock, M. D., Assistant Physician, Northern Michigan Asylum. New York and London: G. P. Putnam's Sons, 1889. Pp. viii–129. [Price, $1.25.]

American and English readers are certainly able to inform themselves well now upon a subject which has until recently been relegated to the limbo of spiritualists and charlatans, for the scientific expositions of the subject by Heidenhain of Breslau, Bernheim, Bjernström, Binet, and Féré are all at our disposition in good translations. To these may now be added this very remarkable study by von Krafft-Ebing, the greatest living expert in morbid psychology. This brochure describes the case of a young woman with grave hysteria, who presented all the more common and many of the more startling hypnotic phenomena under the observation of the author. Among the latter there were certain trophoneuroses produced by suggestion; but one must read this volume of absorbing interest in order to fully appreciate the details. The translation is fairly done.

Foods for the Fat: a Treatise on Corpulency and a Dietary for its Cure. By Nathaniel Edward Davies, Member of the Royal College of Surgeons, England. American Edition. Edited by Charles W. Greene, A. M., M. D. Philadelphia: J. B. Lippincott Company, 1889. Pp. vii–9 to 138. [Price, 75 cents.]

The author's theory is that excessive accumulation of fat is a disease and requires scientific medical treatment like any other disease. He rejects the theories of Banting, Oertel, and Ebstein as all unsuited for the reduction of corpulency and, at the same time, the preservation of health. Carefully regulated diet and exercise are the means which he would use, and he has found, by large experience with the diet lists which he gives, that relief is possible in every case. The liberal choice of foods which he allows certainly offers an inducement to those who have failed in attaining the desired end by other methods to give this one a trial.

An Introduction to Pathology and Morbid Anatomy. By T. Henry Green, M. D., Physician to Charing Cross Hospital and to the Hospital for Consumption and Diseases of the Chest, Brompton, etc. Sixth American from the Seventh English Edition, revised and enlarged by Stanley Boyd, M. B., B. S. Lond., F. R. C. S. Eng., Senior Assistant Surgeon to Charing Cross Hospital, etc. Illustrated by One Hundred and Sixty-seven Fine Engravings. Philadelphia: Lea Brothers & Co., 1889. Pp. xx–17 to 539. [Price, $2.75.]

The number of editions through which this work has passed renders a minute review unnecessary. As the preface states, it has been enlarged in matter and, what is all for the better, in type. Revised no later than May of the present year, it purports to be up to date. Glancing here and there for verification, we find in the introductory chapter a succinct but clear description of the cell as modern pathologists understand it—its constitution, physiology, and genesis, albeit the account of the latter might have been somewhat amplified.

On page 25 we read that "pneumonia after section of the vagi is due to entry of food, etc., through the insensitive glottis." Broncho-pneumonia is meant, of course, as always, elsewhere, the single word "pneumonia" stands for the acute or croupous variety. The pages devoted to lung diseases contain a plain but explicit digest of the subject according to late investigators. Arguments regarding the causal relation of an organism to pneumonia are carefully presented for both sides. The author thinks that a causal relationship is not yet proved.

The chapter on pulmonary phthisis is written in acceptance of the dictum that the tubercle bacillus is a recognized element in the production of the disease—plus an "inherited or acquired something" in the individual affected. This something is defined as "hereditary predisposition and state of general health"—a statement, in our opinion, that will bear argument; for, as the author says, "so little is at present known of the life-history of the *Bacillus tuberculosis* that the circumstances which favor its growth can not be formulated." Hereditary predisposition, as applied to germ-diseases, must await further research before it can be discussed among the certainties. Plausible as seem the old arguments for it, there are some well-nigh insuperable against it.

In the chapter on inflammation, pus production is ascribed to germ agency, and is fairly discussed. In that on vegetable parasites, the longest and the best, no mention is made of the *Bacillus lepræ*, though it is referred to on page 339 as a probable cause of leprosy.

Altogether the work justifies its title, and may be read profitably.

A Hand-book of Dermatology. For the Use of Students. By A. H. Ohmann-Dumesnil, A. M., M. D., Professor of Dermatology, St. Louis College of Physicians and Surgeons. Illustrated. St. Louis Medical and Surgical Journal Publishing Company. Pp. viii–167.

Of hand-books of dermatology we have enough and to spare. As the one now before us is not so good as some others already in the market, it has no reason for being. The author seems to recognize this and says in his preface: "This small hand-book was not written to fill a long-felt want. At the request of a number of students, the author jotted down the few notes which follow." It may prove useful to the author in his teaching as an outline for his lectures. It is too meager in its contents for other uses. What is given is well given; but to compress all of dermatology into a book of this size is to boil it down so as to leave only the dry bones. The publishers have not done their work well. The paper is coarse, the press-work is blurred, and the illustrations are coarse.

BOOKS AND PAMPHLETS RECEIVED.

Anæsthetics, Ancient and Modern; their Physiological Action, Therapeutic Use, and Mode of Administration; together with an Historical Résumé of the Introduction of Modern Anæsthetics—Nitrous Oxide, Ether, Chloroform, and Cocaine; and also an Account of the More Celebrated Anæsthetics in Use from the Earliest Time to the Discovery of Nitrous Oxide. By George Foy, F. R. C. S., Fellow of the Royal Academy of Medicine in Ireland, etc. London: Ballière, Tindall, & Cox, 1889. Pp. 7–9 to 175.

Text-book of Medical Chemistry. For Medical and Pharmaceutical Students and Practitioners. By Elias H. Bartley, B. S., M. D., Professor of Chemistry and Toxicology, and Lecturer on Diseases of Children in

Long Island College Hospital, etc. Second Edition. Revised and enlarged. With Sixty-two Illustrations. Philadelphia: P. Blakiston, Son & Co., 1890. Pp. xi–9 to 423.

Diseases of Women and Abdominal Surgery. By Lawson Tait, F. R. C. S. Edin. and Eng., LL. D., M. D. (honoris causa) of the University of the City of New York, etc. Vol. I. Philadelphia: Lea Brothers & Co., 1889. Pp. viii–547. [Price, $3.]

On the Treatment of Diabetes by Free Phosphorus. By Balmanno Squire, M. B. Lond. London: J. & A. Churchill, 1889. Pp. 54.

Sanitary Entombment; the Ideal Disposition of the Dead. By the Rev. Charles R. Treat, New York. [Reprinted from the Sanitarian.]

Higher Medical Education, and how to secure it. The Annual Address before the Alumni Association of the University of Maryland. By Richard H. Lewis, M. D., of Raleigh, N. C.

Subcutaneous Rheumatic Nodules. By William A. Edwards, M. D., San Diego, Cal. [Reprinted from the University Medical Magazine.]

Transactions of the State Medical Society of Arkansas. Pine Bluff, 1889.

Di un caso di osteomielite acuta degli adolescenti. Pel Dottor Luigi Bernacchi. [Estratto dall' Archivio di Orthopedia.]

. Massage and the Original Swedish Movements; their Application to Various Diseases of the Body. By Kurre W. Ostrom, Instructor in Massage and Swedish Movements in the Hospital of the University of Pennsylvania, etc. Illustrated. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. vi–9 to 97.

Manual of Skin Diseases, with Special Reference to Diagnosis and Treatment. For the Use of Students and General Practitioners. By W. A. Hardaway, M. D., Professor of Skin Diseases in the Missouri Medical College and in the St. Louis Post-graduate School of Medicine, etc. St. Louis: Theo. F. Lange, 1890. Pp. vi–434.

Persistent Headaches, and how to cure Them. By Julian J. Chisolm, M. D., Professor of Eye and Ear Diseases in the University of Maryland.

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Paranoia in Two Sisters. By Frederick Peterson, M. D., New York. [Reprinted from the Alienist and Neurologist.]

The Colonization of Epileptics. By Frederick Peterson, M. D., New York. [Reprinted from the Journal of Nervous and Mental Disease.]

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All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, February 22, 1890.

Original Communications.

ON NEUROKERATIN.*

By W. KÜHNE,
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The name neurokeratin † was applied to the substance contained in medullated nerves and in the central nerve organs which is insoluble in alcohol and ether, in gastric and pancreatic juice, and in dilute caustic potash. It is therefore a substance characterized by extreme insolubility. Only the tissues and organs of the nervous system and the horny structures of the epidermis yield such an insoluble body, so resistant to the action of all solvents, except such as are powerful decomposing agents.

The preparation of neurokeratin depends upon the removal from the nerve tissue of the peculiar histogenetic substances present there, such as albumin, collagen, elastin, and nuclein, likewise upon the separation of all fat and of the so-called myeline substances—viz., protagon, lecithin, cerebrin, cholesterin, and possibly soaps, and also of the extractive matters soluble in water common to all tissues.

The finding of neurokeratin led to the discovery that the nerve medulla was more complex in its composition than had before been supposed, especially as the presence of proteid matter was proved at the same time. Furthermore, it was likewise ascertained that, in addition to the neurokeratin of the medullary sheath, other sheaths of similar material were also present in the medulla. In spite of these facts, however, we shall in the present article, for the sake of retaining simple terms, follow the old use of the word myeline and apply to the bodies extracted by alcohol, ether, chloroform, benzol, or carbon disulphide the name of medullary or myeline substances, although the term is now used in a much narrower sense.

In order to obtain neurokeratin it is necessary to remove the medullary substances or myelines from the brain or nerve tissue, as well as to free the latter from their peculiar tissue framework by digestion and from nuclein by extraction with alkali. As has been previously stated in another place, it makes no difference in the result as to the order of treatment, a fact of considerable importance, since the preparation of neurokeratin, by first digesting the nerve tissue and then extracting the myeline substances, furnishes proof that the long extraction of the medullary bodies with alcohol, etc., does not generate the insoluble substance, a fact which affords evidence of the pre-existence of neurokeratin.

For the microscopic study of the form and arrangement of neurokeratin the method of treatment commencing with the extraction of the myeline bodies will presumably remain the most common, although even for this purpose the reversed method of treatment can be used with equally good results; for the preparation of the substance in large quantities, however, only the first method has hitherto been used. We have for our present purposes employed both methods, and in the course of our experiments have found that digestion of the tissue prior to extraction of the myeline substances, even where large masses of brain are taken, is not only practicable, but possesses certain advantages.

Neurokeratin from Brain.

The material best adapted for use is the human brain, mainly on account of its large size. It was always obtained from an early dissected cadaver well preserved in the cold, and was always fresh and without trace of putrefactive odor. In every preparation the first step consisted in the separation of the pia mater under water, so as to remove as far as possible all traces of blood.

1. *Preparation by Digestion after Extraction of the Medullary Substance.*—Two brains were beaten up with 4,800 c. c. of absolute alcohol, the mass pressed through a sieve, and, after standing twenty-four hours, collected in a cloth bag or filter and the fluid pressed out. The residue was rubbed to a fine paste with a like volume of fresh alcohol, and, after forty-eight hours, again pressed out and washed with cold ether. The mass was then thoroughly washed with hot ether in an extractor with inverted condenser for twenty-four hours, after which it was dried in the air, then boiled with two litres of absolute alcohol, pressed through muslin and placed in a special extraction apparatus, in which it was kept in contact with boiling alcohol for forty-eight hours. This apparatus was so arranged that with the help of a sieve the mass of tissue was at first sunk deep into the alcohol, then raised nearer the surface, and finally suspended above the boiling alcohol, so that at the last it was extracted solely by the warm fluid flowing back from the inverted condenser. After thorough pressure, the mass, freed in this manner from the medullary substances, was boiled with two litres of water, in order to completely remove the adhering alcohol and at the same time to render the connective tissue more digestible. It was then placed in five litres of an extremely active gastric juice containing 0·4 per cent. hydrochloric acid and warmed at 40° C. for four days, after which it was thrown on a large filter connected with a pump and thoroughly washed with water after sucking out all of the filtrate. The slight acidity of the remaining tissue was neutralized with dilute alkali, after which it was subjected to a trypsin digestion, in which one litre of an active pancreatic juice was employed, prepared in the usual manner from one hundred grammes of dry pancreas and containing 0·5 per cent. of sodium carbonate. After five days' digestion at 40° C. the undigested residue was washed with water, placed in two litres of five-per-cent. sodium carbonate solution, and boiled for half an hour. The residue, after cooling, was filtered off, washed with water, and placed in three litres of 0·5-per-cent. caustic potash, where it was allowed to remain for forty-eight hours at medium temperature, with frequent stirring, in order to

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* Published also in the Zeitschrift für Biologie, Band xxvi.

† A. Ewald and W. Kühne, Ueber einen neuen Bestandtheil des Nervensystems, Verhandl. d. naturhist. med. Vereins zu Heidelberg, n. F., Band i, 1877, p. 357.

dissolve the nuclein present. After decantation, filtration, and washing with water, the mass was acidified with 0·4-per-cent. hydrochloric acid and subjected to a pepsin digestion for several days in two litres of an active gastric juice.

In this last digestion there was no noticeable shrinkage of the mass, but, after washing out the acid with water, we found that hot alcohol still dissolved considerable matter, accompanied by a swelling or softening of the substance, in consequence of which the solution filtered very slowly. This admixture, consisting presumably of cerebrin, was removed to better advantage by repeated boiling with alcohol, to which a little glacial acetic acid had been added. Thereupon the mass was treated again with caustic potash, and this time for two days with a solution of five per cent. strength, after which it was washed with water, then with acetic acid, again with water, and finally with alcohol and ether.

The preparation obtained in this manner, on being tested with pure pepsin and trypsin, was found to be entirely free from substances capable of furnishing peptone, also free from digestible albumins, likewise free from soluble gelatin, since tannic acid added to the solution obtained by boiling with water gave no turbidity, and also free from nuclein, since five-per-cent. caustic-potash solution dissolved nothing precipitable by acetic acid. We were not able, however, to completely remove all of the myeline bodies, for apparently a trace of cerebrin still remained. Except in the preparation of small quantities, as in the quantitative determinations to be described later, we have not been able to obtain a sample of neurokeratin which would not give up some matter on long-continued boiling with alcohol, benzol, or chloroform, the fluid on evaporation invariably leaving a slight film or coat on the glass with a more or less fatty feeling. In view of the possibility of our having to deal with lime or magnesia soaps we have not neglected, as before mentioned, to boil with alcohol containing either glacial acetic acid or hydrochloric acid without, however, wholly reaching the desired end. All that can be accomplished is to have the neurokeratin finally brittle in hot alcohol, so that the latter will filter easily and the preparation itself not feel soft or fatty. In this we were occasionally more successful with the neurokeratin from ox brain than from human brain, hence possibly in the future ox brain will be the preferable material to work with.

2. *Preparation by Digestion prior to Extraction of the Medullary Substances.*—For this purpose it is advantageous not to employ more than one brain (about 1,300 grammes) in a single preparation. The tissue was at once rubbed up fine, with gradual addition of 0·4-per-cent. hydrochloric acid, and to this was finally added five times its volume of active gastric juice. The juice was always prepared by the self-digestion of one part of the mucous membrane of a pig's stomach, with twenty parts of 0·4-per-cent. hydrochloric acid, and preserved in the cold after being moderately thymolized. As a rule, the brain-matter, after four days' digestion at 40° C., sank so completely to the bottom of the vessel that the excess of the juice could be decanted off, while the residue was collected on a filter, again rubbed up as fine as possible in a porcelain mortar, and once more warmed for four to six days with four litres of fresh gastric juice. In every case we have tested a sample of the gastric juice employed, in order to be sure of its activity, by trying its solvent power on blood-fibrin. Although the digestion periods were quite long, we never observed the formation of any mold or decomposition through the growth of micro-organisms, though the clear filtrates frequently broke down on long standing after the thymol had nearly or completely left them.

After the second digestion, the brain-matter was again collected on a filter, and, after being washed, was either directly freed from myeline bodies or else subjected to a trypsin digestion (possibly unnecessary). In the latter case the mass was neutralized with sodium-carbonate solution, and then warmed for eight days at 40° C. with one litre of well-thymolized pancreatic juice (1 to 40) containing 0·5 per cent. of sodium carbonate. At the end of the digestion the whole mass was in the form of a soapy magma, and, as filtered portions on neutralization or by acidifying were not rendered turbid, the entire mixture was at once acidified with hydrochloric acid up to about 0·1 per cent., and then shaken with ether. The treatment with acid was necessary, as the ether would not separate well, if at all, from the alkaline fluid. The separation of lecithin, protagon, and cholesterin by means of ether was accomplished by repeated shakings in a large separating funnel, and at the same time, also, the soluble digestion products were washed out, since the brain-matter under the ether formed such a compact layer, floating on the acid fluid, that the latter only needed to be drawn off and the operation repeated with fresh dilute acid and water. When this had been continued until a portion of the aqueous fluid was not rendered turbid by a large excess of alcohol, the pasty-like mass under the ether was drawn off, mixed with alcohol until it could be easily filtered, boiled with 60-per-cent. alcohol for half an hour, and filtered on a hot-water funnel. The filtered fluid, at first clear, quickly became milky on cooling from the separated cerebrin. The brain residue was then repeatedly boiled with absolute alcohol, benzol, and chloroform, the filtrations being made with the aid of the hot-water funnel. In order to remove the nuclein from the much-shrunken preparation, it was treated for several days with about two litres of one-per-cent. sodium-hydroxide solution, filtered, washed with the alkali until the washings were not rendered turbid by acid, then with dilute hydrochloric acid. Finally, the residue was boiled with alcohol containing a little hydrochloric acid, then with the various solvents for the myeline bodies, and at last thoroughly washed with ether.

Whether it is possible by either one of the above methods to prepare larger quantities of neurokeratin *pure* is uncertain. We need to remember, in considering the preparation of this substance, that we are dealing with a body which can not be dissolved unaltered and then reprecipitated, but with one which can only be obtained as a residue, and, further, that, in spite of great patience, we have not been able, as before mentioned, to entirely remove the myeline bodies. A further difficulty is to be found in the visible admixture of insoluble pigments, for neurokeratin obtained from the gray substance, or from the entire brain, has a distinct yellowish color, while that prepared from the white substance is colorless. Another slight impurity is to be found in the presence of paper fibers, although we have avoided these as much as possible, even at the expense of our product, by leaving considerable of the sticky substance adhering to the paper. This we further endeavored to reduce to a small microscopic residue by working the preparation, while still moist with alcohol and ether, on a glass plate with a blunt knife, in order to felt the fibers into little flocks, many of which tended to stick to the blade. Still more was removed, after drying and pulverizing the product, by sifting the powder through fine mull. We have also tried shaking and washing the substance with heavy fluids, such as chloroform or carbon disulphide, but without result.

The following analyses were made with products dried at 110° C. until of constant weight. Carbon and hydrogen were determined by combustion in oxygen gas in a tube filled with granular oxide of copper, with an anterior layer of chromate of lead and a roll of reduced copper. Nitrogen was determined as gas*; sulphur, according to Hammarsten's method.

I. Neurokeratin from two human brains, in which the medullary substances were first extracted, using only alcohol and ether, and the residue of tissue then digested:

I. 0·5377 gramme of substance gave 0·3522 gramme H_2O = 7·27 per cent. H, and 1·0928 gramme CO_2 = 55·42 per cent. C.
II. 0·4389 gramme of substance gave 0·2850 gramme H_2O = 7·21 per cent. H, and 0·8926 gramme CO_2 = 55·46 per cent. C.
III. 0·5250 gramme of substance gave 63·7 c. c. N at 19·6° C. and 754·9 mm. pressure = 14·13 per cent. N.
IV. 0·5278 gramme of substance gave 63·7 c. c. N at 19·6° C. and 761·4 mm. pressure = 14·18 per cent. N.
V. 0·6852 gramme of substance, fused with KOH + KNO_3, gave 0·0930 gramme $BaSO_4$ = 1·86 per cent. S.
VI. 0·5455 gramme of substance, fused with KOH + KNO_3, gave 0·0744 gramme $BaSO_4$ = 1·87 per cent. S.
VII. 0·6597 gramme of substance gave 0·0075 gramme ash (calcium phosphate) = 1·13 per cent.
VIII. 0·7247 gramme of substance gave 0·0093 gramme ash = 1·28 per cent.

Percentage Composition of the Ash-free Substance.

							Average.
C....	56·09	56·13	....	....	....	....	56·11
H....	7·36	7·30	....	....	....	....	7·33
N....	....	....	14·30	14·35	....	....	14·32
S....	....	....	....	....	1·87	1·88	1·88
O....	....	....	....	....	....	....	20·36
							100·00

II. As preparation No. 1 had a somewhat greasy feeling and yielded a little something to hot benzol, it was again thoroughly extracted with boiling benzol, chloroform, alcohol, and carbon disulphide, and an endeavor made to free it still more completely from paper fibers. After being dried at 110° C., it was analyzed with the following results:

I. 0·3817 gramme of substance gave 0·2468 gramme H_2O = 7·18 per cent. H, and 0·7830 gramme CO_2 = 55·94 per cent. C.
II. 0·3825 gramme of substance gave 0·2480 gramme H_2O = 7·23 per cent. H, and 0·7806 gramme CO_2 = 55·65 per cent. C.
III. 0·3724 gramme of substance gave 0·2416 gramme H_2O = 7·20 per cent. H, and 0·7620 gramme CO_2 = 55·79 per cent. C.
IV. 0·3154 gramme of substance gave 35·9 c. c. N at 5·4° C. and 754·3 mm. pressure = 13·91 per cent. N.
V. 0·3985 gramme of substance gave 45·4 c. c. N at 6·0° C. and 757·6 mm. pressure = 13·95 per cent. N.
VI. 0·5126 gramme of substance, fused with KOH + KNO_3, gave 0·0612 gramme $BaSO_4$ = 1·63 per cent. S.
VII. 0·4987 gramme of substance, fused with KOH + KNO_3, gave 0·0570 gramme $BaSO_4$ = 1·57 per cent. S.
VIII. 0·5726 gramme of substance gave 0·0050 gramme ash = 0·87 per cent.
IX. 0·6166 gramme of substance gave 0·0057 gramme ash = 0·92 per cent.
X. 0·4985 gramme of substance, fused with KOH + KNO_3, precipitated with molybdic solution, and finally with magnesia mixture, gave 0·0041 gramme $Mg_2P_2O_7$ = 0·22 per cent. P, or no more than the phosphorus of the calcium phosphate of which the ash was composed.

Percentage Composition of the Ash-free Neurokeratin.

								Average.
C	56·44	56·15	56·29	...	....	....	....	56·29
H	7·24	7·29	7·26	....	....	....	....	7·26
N	....	....	....	14·04	14·08	....	....	14·06
S.......	....	....	....	....	....	1·66	1·60	1·63
O	....	....	....	....	....	....	....	20·76
								100·00

As is seen from the results, the more complete extraction of the cerebrin (?) makes no special difference in the percentage of composition when contrasted with No. 1.

III. Neurokeratin from the brain of a child eighteen months old, purified as in No. II; first digested and then the medullary substances extracted:

I. 0·3854 gramme of substance gave 0·2580 gramme H_2O = 7·43 per cent. H, and 0·7894 gramme CO_2 = 55·85 per cent. C.
II. 0·3660 gramme of substance gave 0·2447 gramme H_2O = 7·42 per cent. H, and 0·7524 gramme CO_2 = 56·05 per cent. C.
III. 0·3474 gramme of substance gave 36·2 c. c. N at 5·4° C. and 755·7 mm. pressure = 12·76 per cent. N.
IV. 0·3414 gramme of substance gave 36·2 c. c. N at 6·4° C. and 755·0 mm. pressure = 12·92 per cent. N.
V. 0·4923 gramme of substance, fused with KOH + KNO_3, gave 0·0610 gramme $BaSO_4$ = 1·70 per cent. S.
VI. 0·5807 gramme of substance, fused with KOH + KNO_3, gave 0·0743 gramme $BaSO_4$ = 1·75 per cent. S.
VII. 0·4897 gramme of substance gave 0·0076 gramme ash = 1·57 per cent.
VIII. 0·4784 gramme of substance gave 0·0073 gramme ash = 1·53 per cent.
IX. 0·4923 gramme of substance, fused with KOH + KNO_3, precipitated with molybdic solution, and finally with magnesia mixture, gave 0·0079 gramme $Mg_2P_2O_7$ = 0·44 per cent. P, corresponding to the calcium phosphate of the ash.

Percentage Composition of the Ash-free Substance.

							Average.
C....	56·72	56·92	....	....	....	....	56·82
H....	7·55	7·54	....	....	....	....	7·54
N....	....	....	12·96	13·12	....	....	13·04
S ...	....	....	....	....	1·73	1·78	1·75
O....	....	....	....	....	....	....	20·85
							100·00

IV. Neurokeratin from the brain of an adult; method of preparation same as in No. III:

I. 0·4082 gramme of substance gave 0·2930 gramme H_2O = 7·97 per cent. H, and 0·8688 gramme CO_2 = 58·04 per cent. C.
II. 0·4572 gramme of substance gave 0·3275 gramme H_2O = 7·95 per cent. H, and 0·9725 gramme CO_2 = 58·00 per cent. C.

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* Zeitschrift für Biologie, Bd. xix, p. 166.

III. 0·3149 gramme of substance gave 29·2 c. c. N at 4·6° C. and 752·6 mm. pressure = 11·34 per cent. N.
IV. 0·3856 gramme of substance gave 35·8 c. c. N at 5·6° C. and 759·9 mm. pressure = 11·42 per cent. N.
V. 0·5109 gramme of substance, fused with KOH + KNO_3, gave 0·0672 gramme $BaSO_4$ = 1·80 per cent. S.
VI. 0·3553 gramme of substance, fused with KOH + KNO_3, gave 0·0490 gramme $BaSO_4$ = 1·89 per cent. S.
VII. 0·3552 gramme of substance, fused with KOH + KNO_3, gave 0·0482 gramme $BaSO_4$ = 1·86 per cent. S.
VIII. 0·4853 gramme of substance gave 0·0036 gramme ash = 0·74 per cent.
IX. 0·9788 gramme of substance gave 0·0073 gramme ash = 0·74 per cent.
X. 0·5108 gramme of substance, fused with KOH + KNO_3, precipitated with molybdic solution, and finally with magnesia mixture, gave 0·0022 gramme $Mg_2P_2O_7$ = 0·12 per cent. P, corresponding to the phosphate of the ash.

Percentage Composition of the Ash-free Substance.

								Average.
C	58·47	58·43	....	....	....	....	....	58·45
H	8·03	8·01	....	....	....	....	....	8·02
N	....	....	11·42	11·50	....	....	....	11·46
S	....	....	....	....	1·83	1·91	1·89	1·87
O	....	....	....	....	....	....	....	20·20
								100·00

V. Neurokeratin from the brain of a man twenty-one years old; method of preparation same as in Nos. III and IV:

I. 0·5783 gramme of substance gave 0·3803 gramme H_2O = 7·30 per cent. H, and 1·1820 gramme CO_2 = 55·73 per cent. C.
II. 0·3695 gramme of substance gave 0·2463 gramme H_2O = 7·40 per cent. H, and 0·7606 gramme CO_2 = 56·13 per cent. C.
III. 0·3881 gramme of substance gave 0·2578 gramme H_2O = 7·38 per cent. H, and 0·7965 gramme CO_2 = 55·96 per cent. C.
IV. 0·4720 gramme of substance gave 48·1 c. c. N at 5·0° C. and 755·8 mm. pressure = 12·50 per cent. N.
V. 0·3833 gramme of substance gave 39·9 c. c. N at 6·4° C. and 756·3 mm. pressure = 12·71 per cent. N.
VI. 0·5160 gramme of substance, fused with KOH + KNO_3, gave 0·0825 gramme $BaSO_4$ = 2·19 per cent. S.
VII. 0·4806 gramme of substance, fused with KOH + KNO_3, gave 0·0768 gramme $BaSO_4$ = 2·19 per cent. S.
VIII. 0·5401 gramme of substance gave 0·0130 gramme ash = 2·40 per cent.
IX. 0·2742 gramme of substance gave 0·0065 gramme ash = 2·37 per cent.
X. 0·4805 gramme of substance, fused with KOH + KNO_3, precipitated with molybdic solution, and finally with magnesia mixture, gave 0·0056 gramme $Mg_2P_2O_7$ = 0·32 per cent. P, corresponding to the calcium phosphate of the ash.

Percentage Composition of the Ash-free Substance.

								Average.
C	57·09	57·48	57·32	....	....	....	....	57·27
H	7·48	7·58	7·56	....	....	....	....	7·54
N	....	....	....	12·80	13·00	....	....	12·90
S	...	...	....	.. .	....	2·24	2·24	2·24
O	....	....	....	....	....	....	....	20·03
								100·00

	Neurokeratin.					Hair-keratin.
	I.	II.	III.	IV.	V.	
C	56·11	56·29	56·82	58·45	57·29	49·45
H	7·33	7·26	7·54	8·02	7·54	6·52
N	14·32	14·06	13·04	11·46	12·90	16·81
S	1·88	1·63	1·75	1·87	2·24	4·02
Ash	1·21	0·89	1·55	0·74	2·38	1·01

Examination of the above-given results shows many points of interest in spite of the individual variations, which were perhaps to be expected from the manner of preparation. First of all we notice the absence of phosphorus, concerning which we have reported in detail, because it might naturally be expected that an indigestible body like neurokeratin should contain some substance related to the nucleins, as, for example, a nuclein insoluble in caustic alkalies. The absence of phosphorus, however, shows that such is not the case. Secondly, the low amount of sulphur is interesting, especially when compared with older data, which show 2·93 per cent. in the case of neurokeratin from the brains of oxen and in preparations which had been extracted with only 0·5-per-cent. caustic soda. In Nos. I and II the preparation was, to be sure, extracted with an alkali of ten times the above concentration, but of the three other specimens, all of which were treated with only one-per-cent. caustic alkali, Nos. III and IV do not show any noticeably higher percentage. In preparation No. V, however, the amount of sulphur rises to 2·24 per cent., although it was prepared in exactly the same manner as the preceding preparations and with no less care; still the higher amount of ash is strongly suggestive of some impurity. As to how much sulphur is to be attributed to the albumins and albuminoids is obviously a difficult question, but no more difficult to decide than in the case of keratin and neurokeratin, since both continuously give up sulphur to caustic alkali, and that without losing the lead reaction of the more loosely combined sulphur. Doubtless the percentage of residual sulphur in these bodies is more dependent upon the absolute amount of alkali employed, upon the temperature or upon the duration of the extraction, than upon the concentration of the fluid.

As preparations I and II show a difference of 0·25 per cent. of sulphur, we endeavored to ascertain whether the fluids used in the extraction of the myeline bodies contained any sulphur at the end of the process. On testing the residues, however, with acetate of lead and potassium hydroxide, we failed to find any sulphur reaction. Preparation No. II, which was more thoroughly extracted with alcohol, benzol, etc., was, however, 0·32 per cent. poorer in ash than No. I.

Of the other constituents of neurokeratin, carbon is somewhat higher and nitrogen somewhat lower than the percentages contained in albuminous bodies.

In this connection it seemed very desirable to compare the composition of ordinary keratin with that of neurokeratin, and, as the horny substance of the epidermis had never been studied, when purified from albumin by the method employed by us for neurokeratin, we have subjected hair to this process, purifying it by digestion.

With this end in view a quantity of white hair from rabbits, weighing 500 grammes, was digested for a long time with gastric juice and afterward with pancreatic juice. The quantity did not apparently diminish any by this treatment, although the gastric juice became somewhat colored and the fluid gave a not inconsiderable flocculent turbidity on neutralization. After thorough washing with water, the moist and matted mass was next treated for twenty-four hours with seven litres of 0·5-per-cent. caustic-soda solution, after which it was collected on a cloth filter and thoroughly washed with cold and hot water. On testing a sample, it was found to still give up considerable sulphur to alkalies, consequently the extraction with alkali was repeated and in this case continued for three days with five-per-cent. caustic-potash solution. The mixture was then greatly diluted with water, filtered through flannel, the residue washed with water, and lastly with 0·5 per cent. hydrochloric acid. The hair while in the alkali appeared quite yellow in color, but after the washing it became glistening white again, and, as it was now somewhat broken to pieces and evidently more brittle than before, we thought it advisable while in this condition to extract it once more very thoroughly with gastric juice. Much to our astonishment, however, we found, after warming the mass with ten litres of gastric juice for twenty-four hours, that full four fifths of the substance had disappeared; on treating the residue, however, with fresh gastric juice, it was not visibly altered. Under the microscope the hair structure was still visible, although the pieces were very soft, somewhat swollen and pale, and fell apart readily into single flakes or scales. The mass was finally boiled with alcohol, washed with ether, and dried at 110° C. The following results show its composition:

White rabbits' hair, purified by digestion, by removal of the fat and by caustic soda:

I. 0·5348 gramme of substance gave 0·3120 gramme H_2O = 6·48 per cent. H, and 0·9616 gramme CO_2 = 49·03 per cent. C.
II. 0·3162 gramme of substance gave 0·1832 gramme H_2O = 6·43 per cent. H, and 0·5655 gramme CO_2 = 48·77 per cent. C.
III. 0·5340 gramme of substance gave 0·3115 gramme H_2O = 6·47 per cent. H, and 0·9605 gramme CO_2 = 49·05 per cent. C.
IV. 0·4603 gramme of substance gave 61·5 c. c. N at 5·6° C. and 763·8 mm. pressure = 16·53 per cent. N.
V. 0·5312 gramme of substance gave 72·6 c. c. N at 5·6° C. and 757·9 mm. pressure = 16·77 per cent. N.
VI. 0·5300 gramme of substance gave 71·8 c. c. N at 5·6° C. and 757·9 mm. pressure = 16·62 per cent. N.
VII. 0·5889 gramme of substance, fused with $KOH + KNO_3$, gave 0·1712 gramme $BaSO_4$ = 3·99 per cent. S.
VIII. 0·6805 gramme of substance, fused with $KOH + KNO_3$, gave 0·1963 gramme $BaSO_4$ = 3·96 per cent. S.
IX. 0·6919 gramme of substance gave 0·0072 gramme ash = 1·04 per cent.
X. 0·5921 gramme of substance gave 0·0059 gramme ash = 0·99 per cent.; average 1·01 per cent. ash, with much silica.

Percentage Composition of the Ash-free Substance.

									Average.
C....	49·53	49·27	49·55	....	....	....	....	....	49·45
H....	6·54	6·50	6·53	....	....	....	....	....	6·52
N....	....	....	....	16·70	16·94	16·79	....	....	16·81
S....	....	....	...	....	....	....	4·03	4·00	4·02
O....	....	....	....	....	....	....	....	....	23·20
									100·00

We do not care at the present time to make any close comparison of these results with the analyses of keratin previously recorded, and will only call attention to the fact that our results do not differ essentially from the older analyses of keratin from hair, except that our figures for carbon and nitrogen are somewhat lower; on the other hand, the differences between our keratin results and those for neurokeratin are very great, especially in the case of sulphur, which in the hair amounts to four per cent. or more, and that too in spite of the energetic extraction with five-per-cent. caustic potash. In making a comparison, however, we need hardly consider the sulphur, which certainly, in part at least, comes from some admixed body, for the differences between the carbon and nitrogen are such as to plainly show that hair keratin and neurokeratin can not be directly grouped together chemically. Indeed, the above-stated analyses constitute a most urgent reason for considering anew the whole keratin question in order to clear up first of all the great differences in composition between the different keratins from the epidermis, nails, horn, feathers, etc.—differences which have long been known to exist.

The earlier statements regarding the comparative insolubility of neurokeratin from ox brain we have been able to substantiate with neurokeratin from the human brain; for, while rabbits' hair placed in five-per-cent. caustic potash for four weeks entirely disappeared, neurokeratin was hardly altered by this treatment, and, further, on boiling with dilute sulphuric acid, it left a much larger residue than did hair.

In attempting to make a comparative determination of the absolute and relative amounts of tyrosine and leucine which could be obtained from neurokeratin and from hair we met with a somewhat surprising result. Neurokeratin, on being boiled with dilute sulphuric acid for thirty-six to forty-eight hours, yielded both bodies in abundance, the tyrosine predominating, as is also the case with ox horn when purified in the ordinary way or by digestion. With the purified rabbit's hair, on the other hand (purified by digestion), we were not able with five grammes, a quantity ordinarily more than sufficient, to obtain any trace of tyrosine whatever. There was an abundance of leucine, but no tyrosine; even the fluid from which the tyrosine should have crystallized, if present, gave only a slight orange color on being tested by the Millon-Hoffmann test. White rabbit's hair, unpurified or simply purified by digestion, yielded tyrosine quite plainly—apparently less, however, than yielded by the same quantity of horn, and even less than from fibrin. On testing the material furnished by a hair dealer, from which our purified preparation was made, five grammes boiled with dilute acid failed to give hardly any better reaction for tyrosine than the purified product, and it was only by taking fifteen grammes of the material that we were able to obtain sufficient tyrosine to recognize the crystals. It seems probable, therefore, in spite of the protestations of the dealer to the contrary, that in the technical working of the hair some powerful agents must have been used, which for our purpose was certainly unfortunate.

In connection with our study of this insoluble and indigestible constituent of the nervous system, we have tried an experiment of some morphological interest with the cord of the lobster. We dissected out as clean as possible the cords, consisting of nerve fibers and ganglia, from several medium-sized lobsters, an operation of no great difficulty, and digested them directly with gastric juice and then with pancreatic juice, after which the more or less adherent residue was extracted with alcohol and ether, and finally with caustic soda. That the residue consisted of chitin and not of neurokeratin was shown by dissolving it in concentrated sulphuric acid, pouring the solution into boiling water, neutralizing, and testing its reducing action on alkaline copper solution. It gave a strong reduction, similar to grape sugar.

Quantitative Determination of Neurokeratin.—The method employed for the separation and purification of this body can also be used in its quantitative determination. Aside from the long waiting, the process can be carried out quite simply and accurately, but it is naturally a somewhat tedious one. Only one filter needs to be used—viz., that upon which the substance is finally weighed—and, aside from the watch-glass upon which the original tissue is weighed, only one vessel is, as a rule, needed in the process. The method, however, needs to be modified somewhat in the case of the white substance of the brain, and also when extraction of the myeline bodies precedes the digestion.

We have confined our determinations wholly to the nerves and brain of man; both should be freed as much as possible, before weighing, from external connective tissue and vessels, and also be cut into small pieces with scissors. As in this process, and in the separation of the gray and white substance, it is impossible to avoid the loss of water by evaporation, and as the material should amount to about fifty grammes, the preliminary weight can seldom be exact. We have, however, weighed each quantity as rapidly and accurately as possible, ordinarily placing the greatest value on the final weighing of the prepared substance. In this way the different determinations were made under exactly the same conditions, and are hence strictly comparable.

Nerves or portions of the gray brain substance were rinsed, with five to six times their quantity of gastric juice, into a glass-stoppered separating funnel of 700 to 900 c.c. capacity, and subjected in this vessel, with frequent vigorous shaking, to digestion at 40° C. for eight to fourteen days. By this treatment the mass became as finely divided as if it had been rubbed up in a mortar. In the case of the white substance of the corpus callosum, however, this treatment is not so successful, since the substance sticks in part so closely to the sides of the vessel above the fluid that it is more or less withdrawn from the digestive juice. In this case, therefore, the material was rubbed quite fine with the gastric juice, and the digestion carried on in a beaker, and when the substance had settled to the bottom of the dish, which generally occurred on the fourth day, the clear supernatant fluid was in great part poured off and the sediment again rubbed up with a new lot of fresh gastric juice. After the pepsin digestion was finished, the residue was, at the beginning of our work, subjected to the action of trypsin, a step which we later found to be unnecessary.

For this purpose the thick, but more or less fluid, residue was neutralized with a moderately strong solution of sodium carbonate, and then treated with 50 c. c. of an artificial pancreatic juice for eight days, at 40° C., after which it was made distinctly acid with hydrochloric acid and shaken with ether. As a rule, we were generally successful in drawing off the acid watery solution beneath the layer of undigested matter, quite clear, and usually also the wash fluids, which were composed of 0·4-per-cent. hydrochloric acid. If, however, the fluids did show a noticeable turbidity, they were passed through the weighed filter, while the main bulk of the undigested matter was still kept in the separating funnel. After being thoroughly washed, the residue of tissue, made into a magma with a little water, was united with the upper ethereal layer by the addition of alcohol, and the now homogeneous fluid, together with the undissolved matter, was allowed to flow upon the filter which was placed in a hot-water funnel.

In order to avoid all loss, the separating funnel below the stop-cock must be cut quite short, so that the mouth of the funnel can be well rinsed by means of a wash bottle. The hot-water funnel, on account of danger from fire, had attached to it a long rubber tube, through which the alcohol passed into a receptacle placed some distance away. Further, in order to facilitate the boiling of the fluid on the filter, the rubber tube was provided with a spring clip, which could be closed during the operation of boiling. After the substance had been thoroughly extracted with alcohol and was ready to be washed with ether, benzol, or carbon disulphide, the burner was naturally extinguished and the tube removed, likewise after extraction with chloroform, which we have also frequently used. The various fluids were poured upon the substance boiling hot, while the warm-water funnel was still hot, and, from its large size, remained so for some time.

With this arrangement it was comparatively easy to free the digestion residue completely from recognizable traces of myeline bodies—or, in other words, by this method we were able to accomplish what we did not succeed in doing with larger amounts of neurokeratin. After cooling, the mass was treated for at least two days with one to two litres of one-per-cent. caustic soda for the removal of the nuclein. The alkali was allowed to flow over the residue on the filter, being poured back and forth until the nuclein was wholly extracted; it was then washed with water, afterward with dilute hydrochloric acid, again with water, both cold and hot, and finally with alcohol and ether, after which it was dried on the filter, first in the air, then at 110° C., and weighed.

These various determinations should convince those who do not now apparently believe in the coexistence within the nervous system of the myeline bodies and of a substance resistant to the action of the digestive fluids and of caustic alkalies that neurokeratin really does exist; for in the weighed residues from the nerve fibers, in spite of all that they had passed through, we could plainly detect microscopically the horny sheaths and the sponge-like neurokeratin in the peculiar knotty or gnarled structure of the fragments as well as in the separated short cylinders occasionally seen, in which might also be discovered a second still smaller cylinder of the inner horny sheath. The fragments were colored intensely blue by hæmatoxylin, while by Heidenhain's coloring, with the supplementary action of chromates, they were stained a blackish blue. They likewise gave the lead reaction for sulphur.

I. 25 grammes from both brachial plexuses of a woman seventy-two years old gave 0·079 gramme of neurokeratin = 0·316 per cent.

II. 50 grammes of the cortex of the cerebellum of a man twenty-one years old gave 0·1560 gramme of neurokeratin = 0·312 per cent.

III. 50 grammes of white substance (not quite free from gray) from the cerebrum of the same man gave 1·1217 gramme of neurokeratin = 2·243 per cent.

IV. 50 grammes of the pure white substance from the corpus callosum of a man fifty-seven years old gave 1·451 gramme of neurokeratin = 2·902 per cent.

V. 50 grammes of the gray substance (as free as possible from white) from the cortical portion of the cerebrum of the same man gave 0·1635 gramme of neurokeratin = 0·327 per cent.

The gray substance was separated from the white by scraping instead of by cutting, a method which enabled us to avoid any recognizable quantity of white matter.

In this connection it is interesting to compare the results of determinations in which a portion at least of the myeline bodies were removed prior to digestion. To this end the material (nerves and white matter from the corpus callosum) was first placed in cold alcohol, the nerves in small pieces, while the brain substance was rubbed up with the alcohol. This alcohol was gradually replaced by fresh quantities of absolute alcohol, with which the tissue was at last thoroughly extracted and then treated with ether. Much of the fluid could be poured off quite clear, so that only the residue remained for filtration, for which the weighed filter was at once used. After the removal of the ether by means of alcohol, and the latter by cold and finally boiling water, the substance was rinsed from the filter with gastric juice, and, after being rubbed quite fine, was digested with the fluid in a beaker for fourteen days. In order to avoid all loss, and at the same time to treat all the tissue alike, the filter in its funnel was filled with gastric juice, the end of the tube being closed, and this likewise placed in the digestion oven. During the digestion the residue was several times ground in a mortar, precautions naturally being taken to prevent loss. When the digestion was finished, the material was again brought upon the filter and a second time treated as already described for the complete extraction of the myeline bodies. Lastly, the nuclein was removed by the usual method. Following are the results obtained:

VI. 50 grammes of nerve from the brachial plexus and the sciatic nerve of man gave 0·3005 gramme of neurokeratin = 0·601 per cent.

VII. 50 grammes of white substance from the corpus callosum gave 1·286 grammes of neurokeratin = 2·572 per cent.

We give these determinations alone, although many others were made more especially for the purpose of working out the method. As is seen from the results, the second method gives for the nerves (VI) almost double the amount of residue found by the first method (I); for the white matter, on the other hand (VII), only a little less residue was found than in IV, and but little more than in III, so that very likely in a larger number of determinations little difference would be found. There is no question in our minds as to the cause of the difference in the case of the nerves; it is in great part dependent upon the fact that a portion of the connective tissue becomes indigestible by the alcohol treatment, a view which we have proved by our microscopic study of the question. Another cause for the difference is to be found in the presence of blood in the nerves, which were noticeably red, so that the neurokeratin had more or less of a brownish color, and, in fact, contained quite a little iron. In the white substance of the corpus callosum, on the other hand, where the connective tissue is, without question, much reduced and where no blood is visible, these possible admixtures do not influence the amount of indigestible residue.

Further confirmation of this view is to be found in the determination of neurokeratin made by Josephine Chevalier in 1885, a piece of work which has apparently been wholly ignored by histologists. This investigator found in the fresh sciatic nerve of man 0·30 per cent.* of neurokeratin—a result which shows close agreement with our finding of 0·316 per cent. Bearing in mind, however, that this result of Chevalier's was obtained from nerve fibers which had been previously freed from myeline bodies, it would seem at first glance as if this method should have yielded double the amount found, in correspondence with our determination of 0·601 per cent. (Analysis VI). The reason, however, is to be found in the fact that Chevalier, before digesting the myeline free tissue in gastric juice, removed the connective tissue which had become indigestible through the alcohol-ether treatment by heating it with water at 120° C. in a sealed tube for twelve hours.

The distribution of neurokeratin in the brain is quite remarkable. In no portion of the mammalian brain is there gray substance to be found which does not contain medullated nerve fibers; but in the gray cortex of the cerebrum the admixture is quite limited, and in the corpus collosum white nerve fibers are present, with extremely well developed and thick, spongy structure, and but little true neuroglia. The cortex of the cerebellum (compare Analysis II), on the other hand, is composed of gray matter in which many medullated nerve fibers are to be found. The small amount of neurokeratin, only 0·312 per cent.—somewhat smaller even than that found in the nerves—would well agree with this view. In the cortex of the cerebrum the content of neurokeratin is somewhat higher than in nerves—viz., about 0·011 per cent.—too high, probably, to be explained on the ground of admixture of medullated nerve fibers. Thin sections of the cortex, freed from myeline substance, prepared and treated according to a method to be described later in connection with nerves, have shown us beyond question the presence of a fine, spongy network of horny matter, developed thickest directly under the pia.

The richness of the white substance in neurokeratin is quite remarkable, the amount being about nine times that contained in the peripheral nerves. Hence the brain is naturally the best material from which to prepare large quantities of this substance. The great shrinkage of the connective tissue and the presence of the sponge-like network of horny matter all through the medulla find their chemical expression in the great preponderance of neurokeratin.

In order to comprehend fully the significance of the above percentages, they need to be considered in connection with the amount of water and of the so-called myeline substances of the tissue. According to Chevalier, the nerves of man contain 33·72 per cent. of dry substance, of which

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* Zeitschrift für physiol. Chem., x, p. 100.

16·55 parts are insoluble in alcohol and ether. This myeline-free substance would therefore, according to Analysis I, contain 1·909 per cent. of neurokeratin. The amount of neurokeratin contained in the myeline-free nerve fibers, however, would be somewhat higher than this, as the dry substance necessarily contains some accessory tissues. Chevalier places it at 3·07 per cent. For the human brain it is somewhat hazardous to estimate the content of water, since the well-known analyses of the gray cortex by v. Bibra, Birkner, Bourgoin, and Weissbach show differences of 82·25 to 84·97 per cent., and in the case of the white substance of 63·54 to 73·93 per cent. of water. The average of all the analyses would indicate a content for the gray substance of 84 per cent. in round numbers, and of 70 per cent. for the white substance. Determinations of the myeline bodies in both the gray and white matter have been made only by Petrowski,* and the material used in his experiments was ox brains. Converting his results, expressed in percentages of dry substance to the moist weight of the human brain, we find for the gray matter 10·15 per cent. of myeline-free substance, and for the white matter 8·59 per cent. On the basis of Analysis V, the former would therefore contain 3·22 per cent. of neurokeratin, while the white matter, according to Analysis IV, would contain the enormous quantity of 33·77 per cent. of neurokeratin. Of the cerebellum we have not been able to find any analysis whatever, but, assuming that its content of water and myeline bodies is the same as in the cortex of the cerebrum, then its myeline-free cortex would contain (Analysis II) 3·07 per cent. of neurokeratin.

Hence our results indicate:

For myeline-free dry nerve substance....	1·91 per cent. neurokeratin.
For myeline-free dry gray substance....	3·22 " " "
For myeline-free dry white substance...	33·77 " " "

The old estimate that neurokeratin was present in the whole brain to the extent of at least 15 to 20 per cent. of the myeline-free dry substance was, therefore, none too high.

In order to assure ourselves that in these determinations there was no great error from the peculiarities of the method, especially as at times the weight of the filter was quite large in proportion to the amount of the undigested residue (0·9 to 2·7 grammes), we have applied the method to several other organs, using for this purpose the kidneys and liver.

Forty-five grammes of fresh liver, with the usual amount of blood, from a recently killed rabbit, was first digested with gastric and pancreatic juice, then treated with alcohol, ether, and one-per-cent. caustic soda. The final amount of residue obtained was 0·0263 gramme = 0·058 per cent., or a little less than one fifth the smallest amount of neurokeratin found in the cortex of the cerebellum.

Ten grammes of dry substance from a calf's liver, almost free from blood, was rubbed up with alcohol, then extracted with ether, etc.; and, after thorough digestion and washing with boiling water, left a residue so small as to be unweighable.

Thirteen grammes of fresh kidney from a rabbit, on being treated in the same manner, left a residue of 0·0092 gramme = 0·070 per cent.—somewhat larger than the residue left by the fresh liver, but less than one fourth the residue from the cerebellum. The residue had a grayish look and became blackish brown on boiling with acetate of lead and caustic soda. As the kidneys were omitted in an earlier investigation* of the indigestible constituents of various organs, a further examination of this small residue would be desirable.

(To be concluded.)

THE USE OF AIR IN THE EXAMINATION AND TREATMENT OF CAVITIES AND CANALS WITH THE AID OF REFLECTED LIGHT.

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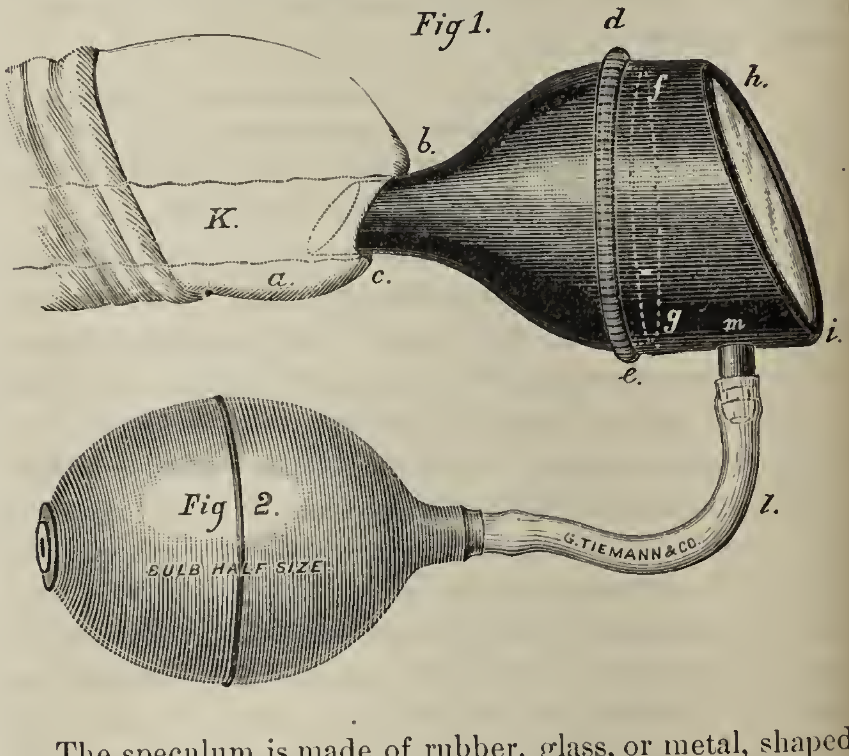
In using the electric endoscope of Leiter I have been impressed with the very circumscribed "funnel" view obtained about the end of the urethral tube.

Seeking to remedy this defect, I found, by hermetically sealing with a sheet of glass the proximal end of a shortened cannula and attaching to its side a fitting for a rubber tube, with bulb, to force in atmospheric air and with which to dilate the urethra, I obtained a field of vision far beyond my most sanguine expectations.

I thereupon had constructed, by Messrs. Tiemann & Co., a number of specula embodying my ideas, with the result of producing the short endoscope illustrated in Fig. 1.

This was designed for the pendulous portion of the urethra and consists of two parts—viz., 1, the speculum, *a*, *b*, *d*, *e*, and 2, the cover, *f*, *g*, *h*, *i*.



The speculum is made of rubber, glass, or metal, shaped like a truncated cone, with the end, *a*, *b*, cut obliquely to facilitate its introduction into the urethra without the aid of a stylet. At the other or proximal end is a flange, *d*, *e*, which is useful in separating the cover from the speculum. Into this proximal end is closely fitted the removable cover, *f*, *g*, *h*, *i*, having at *h*, *i* a transparent glass crystal, fitted air-tight, and at *m* an attachment for a rubber tube with bulb (Fig. 2) for forcing atmospheric air into the endoscope.

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* Arch. f. d. ges. Physiol., vii, p. 367.

* Verhandl. d. naturhist. med. Vereins zu Heidelberg, N. F., Band I, pp. 451–456.

To prevent the glare of reflected light, the glass crystal at *h*, *i* is placed at an obtuse angle to the line of vision, and the inside of the instrument is blackened. The specula at *a*, *b*, *c* are made of various sizes to fit small and large openings, but at the proximal end, *d*, *e*, are all adapted to one cover, *f*, *g*, *h*, *i*.

In using this instrument the flaccid penis is grasped between the ring and middle fingers of the left hand, the lips of the meatus being opened with the index finger and thumb of the same hand. The endoscope, held in the right hand by the flange, *d*, *e*, can now be readily introduced into the urethra by means of the oblique end, *a*, *b*, *c*, until the thicker portion of the speculum, near *d*, *e*, fills the opening. Air is now forced in by the rubber bulb in the hands of the surgeon or patient until the requisite distension of the urethral canal is obtained. In case there should be too much distension, the air may be allowed to escape from the meatus at the side of the speculum by slightly withdrawing it.

The entire canal to the neck of the bladder can thus be exposed and examined by the aid of reflected sun, gas, or electric light from a mirror on the forehead or in the hands of the surgeon. The air-pressure may be increased or diminished at pleasure while noting the effects upon the mucous membrane and studying every detail of its surface. By exercising a little care, no violence need be done to the delicate mucous membrane, as is very liable to happen with the Leiter cannula, with which any sudden movement of the end of the tube against the engorged urethral wall, or even its introduction, usually produces hæmorrhage.

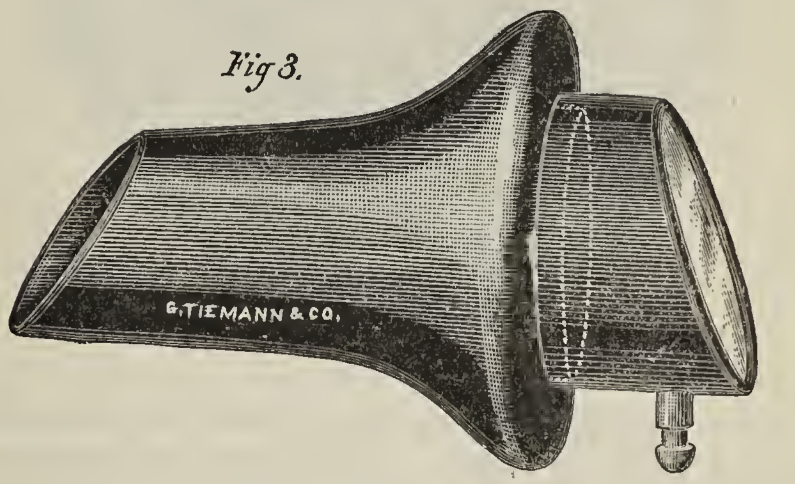
By the employment of my endoscope the openings of the lacunæ, a drop of mucus or gleety discharge, the innumerable small blood-vessels, tumors, strictures, false passages, granulations, ulcerations, etc., may all be recognized and their characters and situations noted. Fragments of impacted or loose stone and foreign bodies may be dislodged without the aid of a forceps by distending the canal with air and using gravity to propel the substance toward the meatus, where it may readily be seized and removed.

For the deeper portion of the urethra, especially in a flaccid penis, I find a longer speculum more useful, as it straightens out the canal and exposes the lower portion to the rays of light transmitted from the mirror. Without using a tube long enough to pass beyond the bladder neck, there is no possibility of forcing air into the ordinary bladder, as it will meet with very strong resistance from the compressor urethræ muscle. In fact, I have found that a moderate amount of air temporarily introduced into the bladder will do very little if any harm, since it is either afterward absorbed (?) or forced out through the urethra by the contraction of the walls of the bladder. It will not pass up the ureters, which are usually filled with urine and have their mouths in the lower portion of the bladder covered with urine, unless a very powerful air pressure is used—enough, in a word, to possibly rupture the urethra or bladder or both.

Tightly wedging the meatus with the short urethroscope and using the greatest amount of air-pressure obtainable from the rubber bulb would either rupture the urethra or force the air out at the meatus by the side of the instrument. It is therefore advisable to hold the speculum lightly engaged in the meatus, and use only the requisite amount of air-pressure, which is very little, to thoroughly dilate the canal. This I find, in the majority of cases, is not disturbing to the sensations of the patient, but is rather agreeable, so that cocaine anæsthesia becomes superfluous. Should the urethra contain much moisture from the presence of a discharge which is liable to cloud the glass cover, I am in the habit of coating the inside surface of the glass with a thin film of glycerin previous to the introduction of the speculum. This effectually prevents clouding of the glass without in any way obscuring the view.

With a slight modification of the proximal or cover part of this endoscope, above described, which is now being constructed, I believe it feasible to perform internal urethrotomy, to snare small growths, and to make applications of various kinds to the walls of the urethra under the direct observation of the eye.

Fig 3.



I am also adapting this endoscope to employment in the rectum, œsophagus, and stomach, the accompanying cut (Fig. 3) being an illustration of the instrument as modified for rectal use. To facilitate the passage of this rectoscope through the sphincter ani I am in the habit of first introducing an ordinary thick spatula, with smooth edges, within the anus, and then upon this as a guide passing the oblique open end of the instrument into the rectum, thereby preventing the hard circular edge of the speculum from injuring the folds of the anus.

In conclusion, I would suggest that, by the aid of sterilized air supplied from a suitable reservoir, a modification of my endoscope might be used successfully even in the examination and treatment of diseases of the vagina and uterus.

26 Irving Place.

A Pasteur Institute for New York.—On Tuesday evening a laboratory for the preventive inoculation of rabies was opened in West Tenth Street by Dr. Paul Gibier, of Paris, the director of the institution, who is to be assisted by Dr. Van Schaick, with Dr. Liautard as consulting veterinarian.

REPORT OF
THE EVULSION OF A LARYNGEAL TUMOR
WHICH RETURNED
TWENTY-TWO YEARS AFTER REMOVAL BY LARYNGOTOMY.

*With an Illustration of the Original Tumor and Photographs of the New Growth and of the Larynx after its Removal.**

By RUFUS P. LINCOLN, M. D.

The reappearance of a growth in the larynx on the site of one removed twenty-two years previously is a phenomenon of sufficient interest to workers in our specialty to warrant the appearance in our records of the following brief notes:

An additional interest is assured by my good fortune in being enabled to exhibit a lithograph of the original tumor *in situ* (Fig. 1, *a*), together with a photograph of the larynx showing the new growth as it appeared when I first saw it last March (Fig. 2); and also a second photograph exhibiting a picture of the larynx immediately after the removal of the tumor (Fig. 3).

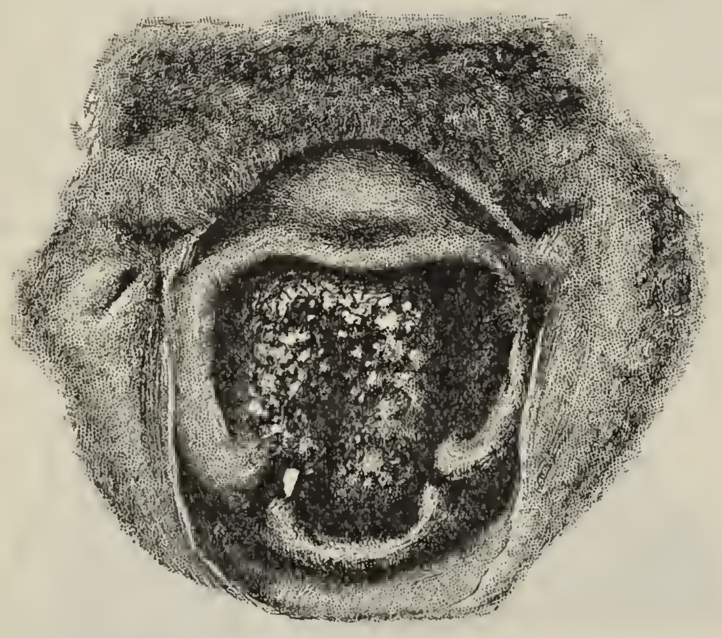


Fig. 1.

I am fortunate in being able to refer to a very full report of the early history and treatment of the original growth made by our late fellow, Dr. Louis Elsberg, embodied in his prize essay, to which the American Medical Association awarded the gold medal for 1865.

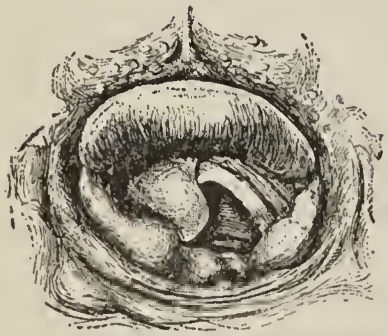


Fig. 2.—March 12, 1889. The larynx with the tumor *in situ*.

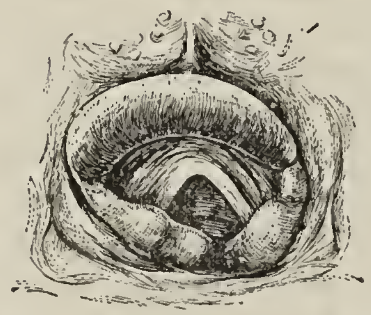


Fig. 3.—May 28, 1889. The same after removal of the tumor. The distorted appearance of the interior of the larynx resulting from the laryngotomy is correctly represented.

(After photographs taken by Dr. Thomas R. French.)

A colored lithograph made by a portrait artist, who bestowed great care and effort at accuracy in his work, accompanies this report. It is to the kind and skillful labor of our fellow, Dr. French, that I am indebted for the photographs that are submitted herewith. An examination of the lithograph and photographs illustrates the accuracy of the camera over the ability of an artist to delineate correctly, no matter how conscientious the latter. These pictures I now submit to your inspection.

The history of the first growth and the account of his efforts at removal *per vias naturales*, together with its microscopical appearance, I abstract from Dr. Elsberg's essay without further acknowledgment.

The patient, a lady, in June, 1862, when twenty-three years of age, first experienced persistent hoarseness, which was followed by complete loss of voice the following August. Cough and dyspnœa soon succeeded aphonia, but it was not till January, 1864, when Dr. Elsberg first saw her, that a correct diagnosis was made. He says: On introducing the laryngeal mirror I immediately saw a tumor hanging down on the left side, covering the posterior attachment of the vocal cords. The epiglottis was in a state of unconquerable pendence, and the fauces so irritable that the laryngoscopic examination could not long be endured.

Four months were consumed in educating the parts by almost daily manipulation to secure tolerance of instruments, during which period the seat of the tumor was defined. It was of large size, passing to a considerable depth below the vocal cords and hanging with its lower portions, either free or attached, into the trachea. It was attached in front along a line across the whole of the epiglottis, half an inch below its crest, and laterally it seemed to issue from the ventricles of Morgagni. Not alone along its peripheral line, but also centrically in every portion, except the most depending, the tumor was attached to parts below. Its consistence was semi-soft, and it had the appearance of cauliflower excrescence or irregular strawberry formation.

With reference to the colored lithograph which is herewith submitted, Dr. Elsberg says: It was the studied result of the efforts of two portrait artists, who made many examinations of the tumors, and were it not for its immobility it would perfectly give to the beholder the image as to form which the living larynx of this young lady presented to the examiner with the laryngoscope.

Extending over a period of two weeks, by means of scissors, cutting forceps, and polypus forceps, there was removed in bulk as much as a small, ordinary egg. He finally cauterized the remnant with acid nitrate of mercury. As a result of this treatment, the patient's respiration was deemed unimpeded; her whisper, more distinct, more audible, gave less trouble and required less effort.

The microscopical appearance of the tumor is of special interest. On section, it had a more or less fibrous look, with an indefinite cell structure. It was composed of areolar, fibrous or connective tissue, having interspersed throughout its substance numerous fusiform bodies. Approaching the surface of the tumor, the fusiform cells resembled the so-called fibro-plastic cells of Hebert. These cells seemed gradually to change their shape and become more and more globular until they resembled epithelium.

Its starting point being in the connective tissue, the tumor unquestionably has a right to the title connective-tissue tumor, or "fibroma," but every pathologist examining its superficial portions would as unquestionably call it a true and typical "epithelioma"; and as to seriousness of prognosis it approximates the latter, or at all events a "sarcoma."

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* Read before the American Laryngological Association at its eleventh annual congress.

Unfortunately, the hope of a satisfactory result from this treatment by evulsion was not realized. The voice was not restored and the growth reproduced itself until further interference was imperative to save the patient's life. Therefore, laryngotomy without tracheotomy was performed by Dr. Elsberg in the month of November, 1867, and the interior of the larynx freed from every vestige of the growth. A good recovery was made, and, according to the patient's statement, the voice became fairly good in about three months.

Nothing to suggest any return of the trouble occurred till the summer of 1888. This led the patient to seek a laryngoscopic examination, when another growth was discovered last October.

I first saw the patient two months ago, and found a tumor of about the size of a large kernel of corn growing from the posterior third of the right vocal cord.

The tumor yielded readily to the pressure of a probe, was of a light pink color, and resembled in appearance an ordinary papilloma. An idea of its shape and situation is best illustrated by the photograph of the larynx and its contents made by Dr. French, March 12, 1889.

On May 24th, the condition seeming opportune, I made my first effort to remove the tumor, and succeeded at one sitting in evulsing the whole of the growth with a Cuzco's laryngeal forceps. By free use of a solution of cocaine the operation was much facilitated. The bleeding was insignificant. There was some immediate improvement in the voice.

I propose in a few days to apply the galvano-cautery to the seat of the tumor.

Dr. F. Ferguson, pathologist to the New York Hospital, has sent me the following report, the result of his examination of a specimen of the tumor:

> The fragments which you sent me are a papilloma without anything unusual in its structure. The epithelium follows the normal type of mucous membrane epithelium, and in its complete removal I believe this kind of tumor to be the least likely of all the epithelial varieties to return.

DEATH FROM ELECTRICAL CURRENTS.

By EDWARD TATUM, M. D.,

YONKERS, N. Y.

Priestley's experiments on a few animals in 1766 proved what has been reported in some cases of death from lightning stroke—namely, that electrical shocks might be fatal without any tissue lesion discoverable by ordinary dissection. Recently, however, it has become customary to describe certain post-mortem appearances as if they were characteristic of death by this agency. For example: cerebral, meningeal, pulmonary, or other congestions or extravasations; empty and contracted heart-ventricles; black color and tardy coagulation of the blood; some peculiarity or total absence of rigor mortis. But a comparison of the reported cases shows that the only one of these appearances which is constant is the black and "unusually" fluid condition of the blood. And this, of course, would be expected in any case of sudden death where the molecular life of the tissues was continued beyond the functions of circulation and respiration. The other phenomena are variable, seeming to depend partly on accidental and inconstant causes, and partly on the time elapsed before the examination is made.

In the following laboratory experiments dogs were chiefly used, from motives both of convenience and of consistency; and regarding the general post-mortem appearances I may say: When the application was made through absorbent-cotton pads, well wet with a three-quarter-per-cent. salt solution and of as much as twelve or fifteen square centimetres surface, and when the current did not exceed by many times the necessarily fatal density, there was no discoverable lesion on, in, or adjacent to the skin, or in any deeper-seated organ. If the body was opened immediately after a very sudden death, the heart was always found lax, both ventricles distended with blood, both auricles pulsating rhythmically. If the examination had been delayed a quarter of an hour or more, or if it followed a less rapidly produced death, the left ventricle was sometimes found empty and more or less firmly contracted. Also, if the body was opened within a minute or so of the cessation of the heart-beat, there was bright blood found in the arteries; but if the examination was delayed many minutes, the blood was quite black. On free exposure to the air, however, within fifteen or twenty minutes it turned scarlet as promptly as other venous blood would do, and clotted quite normally in two minutes. Rigor mortis was noticed to set in in one case within fifty minutes; generally during the second or third hour, but without any relation that could be traced to the strength of current used or its mode of application. Rigor was not absent in any case where it was sought for, and its character presented nothing noteworthy, except the promptness of its appearance.

I. One of the first important facts noted in the laboratory was that, contrary to what has been published as actual observation, a fatal current—unless of several fold the necessarily fatal density—did not measurably impair the functions of muscles and nerves throughout the body; that the general muscular and nervous systems could not be killed till after respiration and heart-beat had been definitively arrested; and, in fact, that it required a nice adjustment of current strength and time of application to abolish the functions of the muscles and nerves of an extremity without actually baking their substance. For example, the muscles of a frog's hind legs were warmed by the passage of a current till their temperature, as judged by the fingers of the experimenter, was above 50° C., and until, as indicated by preceding trials, the complete desiccation and rupture of the tissues were imminent; and yet, on opening the circuit, the legs not only kicked vigorously at the moment of opening, but a moment later responded promptly both to stimulation of their own substance and to that of the sciatic nerves. And, again, whereas a current of one ampère, passed in either direction for one full second between the head and thigh of a dog weighing not more than sixty pounds, and representing in the neck a current-density of as much as a ten thousandth of one ampère to the square millimetre section, invariably causes immediate and permanent arrest of both heart and respiration, yet a current of two and a half ampères has been passed for several seconds from one hind leg to the other of a much smaller dog, and representing a current density ten times as great as that just mentioned, and the dog has immediately afterward risen to his feet and walked away. The movements were not brisk, but they were well co-ordinated, continued as long as the dog was urged, and sufficient to show that all the muscles remained under voluntary control, except only the extensors of the toes. And after every fatal application that was made, whether death was very suddenly or more gradually induced, the skeletal muscles and nerves retained their vitality for a long time. The convulsion on opening the circuit is sufficient evidence of their physiological condition at that moment. An immediate reclosing and reopening of the circuit will be accompanied by similar evidences of vitality. The muscles of the extremities have responded after thirty and forty-minute intervals. The diaphragm has responded to stimulation of the phrenic nerve as quickly after the fatal application as that nerve could be exposed, and it has similarly responded after an interval of half an hour. I am therefore convinced, not only that somatic death may be caused without serious lesion of either substance or functions of muscles or nerves, but also that, when such lesions do occur, they are in no sense the cause, direct or indirect, of death, and can only have resulted from a great excess of current above the fatal strength.

II. The electrolytic action of currents being familiar to all, and the actual electrical decomposition and coagulation of blood within living vessels having been well studied and practically used by surgeons, it has seemed perfectly natural to conclude that, if the current furnished by fifty volts in a portable battery could have so decided an action, certainly the current from a commercial dynamo, maintaining a pressure of some thousands of volts, must be capable of effecting similar results on a sufficiently extensive scale to quickly block the circulation and stop the heart. This notion has met with the sober acceptance of electricians, although it is based on quite a false analogy. The phenomena of electrolysis seen in a galvanic battery, in a voltameter, in a plating-bath, manifest themselves only at the actual surfaces of contact between the electrolyte and the metallic parts of the circuit; and to decompose or coagulate the blood, the needle or needles must be actually immersed in it, and the clot only proceeds from the surface of contact. When, therefore, a current is passed through a dog's body by interposing between the skin and the metallic part of the circuit cotton pads (which are well wet with 0·75 per cent. salt solution, and whose conductivity therefore closely resembles that of animal tissues), it ought to be expected, by strict analogy, that here also all chemical decomposition, all liberation of gases, would take place at the metallic surface. And where a current burns its way from a single point of metallic contact into the tissues, if we may suppose there is a properly electrolytic action separable from the thermic action, there is no reason for supposing that the former extends farther than the actual burn. The question was examined experimentally, however, in the following way: A dog was killed by passing a smooth, continuous current of 0·4 ampère between the head and thigh, the positive pole or electrode being applied to the head. The current was then maintained of the same strength and direction for one hour and forty minutes longer, interrupted only by nine momentary breaks, made for the purpose of testing muscular contractility. By the end of this time the whole body was in a fairly firm rigor. This had been first noticed at the end of forty-five minutes, beginning in the neck, extending then to the muscles of the back, and appearing in the thigh to which one electrode had been applied rather sooner than in the other extremities. Yet after this prolonged application of a fatal dose there was no sign of tissue disintegration or of any liberation of gases in the tissues or in the blood-vessels; nor any lesion whatsoever except a light ecchymosis between the skull and scalp immediately under the electrode.

For the more direct examination of the effects produced upon the blood, six experiments were performed by cutting out a section of the distended anterior jugular and passing the current through its length. In the first the current was so strong or the contact so poor that the vessel was almost immediately burned at one end. The blood contained within it presented no changed characters. In three others a current was passed for from five to fifteen seconds, of a density many times greater than that of a fatal current in a dog's neck. Yet the blood, when drawn from these vessels, showed the red corpuscles of normal size, outline, and behavior under the microscope, not at all decolorized, and the plasma unstained. The blood quickly turned scarlet upon proper exposure to air, and then clotted quite naturally. In a fifth experiment the microscopical examination disclosed no change, but a thin film coagulated on a glass slide presented several irregular, pin-head-sized white spots. Their true character was not determined. In the sixth case the vessel became so hot in between five and ten seconds that its total destruction was feared, and the current therefore stopped. The contact had been very perfectly secured, and there was no burn or discoloration on the surface of the vessel. Two clots were found—one in each end of the section, not differing in character or color and supposed to be due to simple heat coagulation. Between the two clots was a little blood in which no change from normal blood could be detected under the microscope. If there is any change at all wrought in the blood, then, it is not of the nature of ordinary electrolysis; nor is it of a sufficiently gross character to be readily detected with the microscope; nor does it evidently alter the physiological character of the blood. Until at least the existence of some change is proved, it is useless to speculate on its possible nature or consequences.

III. Turning now to the respiratory and cardiac phenomena, we find that these two functions may be to a certain extent affected independently of each other. Respiration may be suspended or inhibited without the immediate arrest of the heart; and, on the other hand, the heart may be instantly and definitively arrested while the respiratory mechanism yields only gradually. I have never succeeded, however, in dealing a shock to the respiratory centers which could at once permanently arrest respiration without as quickly arresting the heart. Respiration may be suspended until death results from asphyxia by the following means: A continuous current from a battery or dynamo, having a strength of 0·2 or 0·3 ampère, passed, descending, from head to thigh of a dog of average size, say fifteen kilos, will, after causing a momentary current-closing spasm, leave all the muscles of the body quite soft and relaxed; but yet there will be a total absence of respiratory or other voluntary movement, or sign of consciousness, while the heart goes on beating, either hardly changed, or else more excitedly than usual. It seems quite likely that the medullary centers may be in this instance in some such condition as that known in the nerves as anelectrotonos, and that by this means simply they are paralyzed during the continuance of the current.

By the continuous current from battery or dynamo, passed in the opposite—that is, ascending—direction, as well as by a rapidly interrupted or a rapidly alternated current, the respiratory muscles may be thrown into a tetanic contraction which suspends respiration, but, of course, also masks any action which such currents might have through the respiratory center. From either of these states of suspended respiration complete recovery is rapid if the circuit is opened before the heart stops.

The effects on the respiration and heart of increasing the current strength are quite different. Thus, while a weak current may suspend respiration without much immediate disturbance of the heart, and while a very strong current may, in a space at least as short as one eighth part of a second, permanently arrest the heart without apparent injury to the respiratory center (respiratory movements even continuing after it with some regularity), yet between these two extremes current densities are found which will arrest the two functions quite simultaneously. A current of one ampère passed between the head and thigh for one full second, in either direction, or an alternating current of the same virtual strength for one second, has always stopped the heart-beat and respiration at once. Weaker currents than these, that require three or four or five seconds to stop the heart, will also have abolished respiratory movements; stronger currents, if continued only long enough to stop the heart, seem, in proportion as they arrest the heart more quickly, to directly influence respiration less. When the current is not passed directly along the course of the medulla, respiration can only be held in abeyance by a tetanizing current.

I have not been able to resuscitate dogs after the heart's action had remained imperceptible for a minute. Sometimes spontaneous recovery takes place after an application which leaves the matter in doubt for a few seconds, but it follows very quickly if it is going to take place at all. Four attempts at resuscitation were made. Tracheal tubes had been introduced, in readiness for instant connection with artificial respiration apparatus. The currents used were then such as, judged from experience, would be just sufficient to positively arrest the heart. Artificial respiration was in operation in each case within a few seconds of the fatal application, and was continued for periods of from five to thirty minutes, but always without successful result. I may add parenthetically that in two instances I have succeeded in restoring cats to life after the heart had seemed to be quite arrested, and respiration was only continued by occasional gasps. The heart's action had remained in one case quite imperceptible for about three minutes, and for rather less in the other.

IV. From one or two reports of credible experiments, it seems possible to apply locally, but without dissection, to the medulla a sufficient electric shock to permanently destroy its functions and so initiate death; yet, from all the preceding results, it is concluded that the chief interest of the question of the mode of death from electrical currents passed through the unbroken skin centers in the mode in which the heart may be arrested suddenly or very quickly.

From the fact that immediately after death the heart is found with both ventricles distended with blood, it was surmised that possibly this result might be brought about by purely mechanical means; that the violent descent of the diaphragm upon the sudden opening or closing of a strong current might, by instantly withdrawing from the surface of the heart the pressure under which it normally works, dilate it past its power of reaction. This question was settled directly by turning the current on gradually, so that it rose from zero to the desired maximum in about three seconds, and then fell to zero again in about two more. There was then no sudden violent muscular contraction. Although a tetanic condition supervened, the muscles stiffened gradually. The heart was arrested as usual. Many other experiments afforded evidence against this explanation, for it was many times shown that a current might be closed and opened several times quickly without serious result, while, if held closed for three or four seconds, it would stop the heart.

There are facts which indicate that the actions of fatal currents upon the heart are little, if at all, assisted by any sort of inhibition proceeding from medullary centers, or depending on the normal connection of the heart with those centers. For example, in two dogs both pneumogastrics were divided in the neck before the fatal application, but without apparently influencing the result. Physiologists suppose that atropine and curare both abolish pneumogastric inhibition. One dog was profoundly atropinized; two others were completely paralyzed by curare (the heart alone maintaining its functions and respiration being carried on artificially). But the action of the current upon the heart, when applied in the usual way between the head and thigh, seemed to be essentially unmodified, and neither helped nor hindered by the abnormal conditions. Ether also seems to be without influence on the fatal results.

And, further, the most fatal mode of application has been when one electrode was placed immediately over the heart region. For in three experiments where this plan was tried the heart was stopped by a strength of current and a duration of closure decidedly less than ever sufficed when the current was passed from the head to the thigh. In two of these cases the anode was over the heart; and this seemed to be, in a small degree, more efficacious than the cathode, although, of course, three experiments are too few to settle the question satisfactorily.

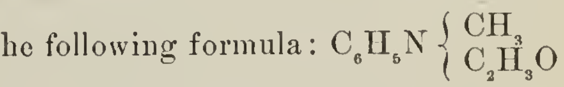
The conclusion, then, seems fairly reached that the essential fatal field of action lies within the substance of the heart itself; that the external inhibitory mechanism plays little or no part; that electrical currents can not finally arrest respiration without simultaneous or still earlier arrest of the heart; and that there are no changes observable in the substance or functions of muscles, nerves, or blood, which can in any sense be the cause of sudden death. Regarding the nature of the action upon the heart, there is no explanation at hand. The experiments with curare and atropine seem to indicate that the action is a direct one upon the muscular tissue, rather than one involving any nervous mechanism; but I have no definite suggestion to offer as to what may be the cause of the greater susceptibility of the heart than of other muscles. It is hoped, however, that a more special study of this matter may soon be possible.

Note.—This series of experiments was carried out chiefly during the spring of last year in the Physiological Laboratory of the University of Pennsylvania, to which I feel greatly indebted.

A SHORT STUDY OF EXALGINE.

By ALEXANDER B. POPE, M.D.

Exalgine, recently discovered by Brigonnet, occurs either in fine acicular or long tablet-like crystals. It is only slightly soluble in cold water, more soluble in hot, and very soluble in dilute alcohol or alcoholated water. Chemically it is methyl acetanilide—a derivative of the aromatic series, and represented by the following formula:



$C_6H_5N\left\{\begin{matrix}CH_3\\C_2H_3O\end{matrix}\right.$

—and is prepared by acting on sodium acetanilide with iodide of methyl.

Physiological Action.—When given in doses of five grains, and repeated at intervals of four hours, no unpleasant effects have been noted save in one case, where ringing in the ears and vertigo were complained of. Attention is called to the fact that in one of my patients, whose history is given below, immediately after a dose of five grains had been taken, a feeling of faintness and impending death came on, but quickly subsided. There were no disagreeable symptoms subsequently in this patient when a similar dose was given.

Thus far no unpleasant effects have been noted upon the gastro-intestinal tract. It is antipyretic, but less powerful in this respect than antipyrine. It is analgesic, and said to be more powerful than antipyrine or phenacetin. Its primary action is upon sensibility, and secondarily upon temperature. It acts well in visceral neuralgias. As an antirheumatic remedy it possesses some power, but is not to be compared with the salicylates.

It lessens motor power in all animals, resembling in this respect formanilide and methyl formanilide. Hypodermically administered, it produces local paralysis in the muscles into which it has been injected.

Similarly it arrests the heart. A small dose causes a slight rise of blood-pressure, but large doses diminish it. The urine is diminished in quantity, but otherwise not altered in health.

It has shown in several of my cases a distinct tendency to cause sleep. In one, after each dose the pain was less severe and the patient slept several hours. Whether it has a tendency to cause sleep, except indirectly through the relief of pain, I am unable to say.

It diminishes oxyhæmoglobin, and interferes with the oxygenation of the blood. It is antiseptic.

Experiments upon mammals show that its convulsive action, to be spoken of presently, is easily reduced by habit, and a study of several of the subjoined cases seems to lead to a similar conclusion with regard to its effect upon neuralgia in man.

Toxicology.—When hypodermically administered to mammals, in a few minutes clonic epileptoid convulsions supervene, with profuse salivation. The convulsions are separated by periods, during which there are more or less cyanosis, dyspnœa, and agitation. We are informed that these convulsions, arrested by ether, are cerebral, but that the spinal cord is subjected to a certain degree of irritation. The temperature begins to fall quickly, and reaches its lowest (2° to 10°), in from three quarters of an hour to an hour. Death occurs from interference with oxygenation. The blood is of a dark prune-color, from the presence of methyl hæmoglobin. The convulsions are produced by asphyxia, and in mammals a tolerance of the drug, especially in its power to bring them on, is readily established. In rats the fatal dose varies from one third to one half a grain to the one fifth of a pound of body weight; in the guinea-pig, one third of a grain for each one fifth of a pound of body weight. In the rabbit, nine grains were injected into a vein before death was produced. Four grains hypodermically caused very serious toxic symptoms in a cat.

The foregoing study establishes the fact that exalgine is a powerful remedy and capable of causing death or severe toxic symptoms if not prescribed with the greatest circumspection.

Therapeutically, comparatively little has been brought forward, clinically, to establish its value, and, to my knowledge, it has been used almost solely for the relief of neuralgias. We are told that it lessens the amount of sugar and urine in diabetes mellitus. I have not had an opportunity of prescribing it in this disease.

The following cases, taken at random, constitute about one half of those to whom I have given it.

Case I.—Mrs. R., aged thirty-five years, is suffering from severe occipito-orbital neuralgia, probably of malarial origin. Quinine is very disagreeable in its effects, and therefore exalgine was ordered in five-grain doses, to be repeated every four hours if necessary. The first dose, and only the first, caused faintness and a sense of impending death. lasting a few seconds, but the pain was promptly relieved. About ten days later I was called to see this lady again, and found her suffering in precisely the same way. The former prescription had been so happy in its effects that it was ordered again, but with absolutely no relief whatever. The treatment was then changed.

Case II.—Mrs. G., aged forty, has been suffering for several days with a very severe attack of neuralgia of the fifth nerve on the left side, involving the ophthalmic, superior and inferior maxillary divisions. The pain is intense. Exalgine was given in five-grain doses at intervals of four hours. There was some relief of pain, and she declared that after each dose the medicine made her sleep two to three hours. When I saw her on the following day she was suffering so acutely that I ordered one twenty-fourth of a grain of sulphate of morphine, with ten grains of antipyrine and half an ounce of whisky, to be repeated every hour or two if desirable. This gave very prompt relief.

Case III.—Mr. G., aged fifty-eight, is suffering from the effects of a bullet wound received during the war. The bullet entered the groin and passed into the perinæum, injuring the deep urethra. As a result, a number of abscesses have formed and opened in the perinæum and posterior part of the scrotum. A perineal section was performed several months since by one of the best surgeons in New York, but the result has not been satisfactory. At present there are two sinuses—one at the back part of the scrotum, the other about the middle of the perinæum—and from these most of the water comes when urine is voided. Each day about four in the afternoon the patient is seized with severe pain in the perinæum, which radiates back around the hips to the sacrum. Antipyrine was ordered in ten-grain doses, to be repeated hourly if necessary, but it gave no relief whatever. Exalgine was next prescribed in doses of two grains and a half, to be repeated hourly, and this gave very great relief, so that the patient has been using it for several weeks. It seems not to have lost its efficiency in the slightest degree.

Case IV.—Mrs. T., aged forty. Has suffered for many years with obstructive dysmenorrhœa. Many remedies have been tried with no success, so she has been obliged to have morphine hypodermically. One hypodermic injection, containing one twelfth of a grain of sulphate of morphine and one one hundred and fiftieth of a grain of sulphate of atropine, gives quick relief without repetition, but is followed for twenty-four to forty-eight hours by intense nausea and depression. Exalgine was prescribed in five-grain doses, to be repeated in four hours. Three doses were taken, and, while complete relief was not afforded, still the necessity for using morphine was avoided, and the lady expressed herself as highly gratified. Thus far I have not had an opportunity of witnessing the effect during a second attack.

Case V.—Mr. M., aged twenty-three, is recovering from a severe attack of acute pleurisy. Preceding this he had indulged excessively in alcoholics for several weeks. At present he is very anæmic and weak, and suffers from subacute gastritis and neuralgia of the fifth nerve. The pain is present when he wakes in the morning, and becomes steadily more and more severe up to bedtime. I saw him in the afternoon, and prescribed phenacetin, with no effect, in powders of ten grains each, to be repeated three times during the day. Exalgine was next tried, and after the first dose, taken at bedtime, the patient slept well, but the pain came on as usual the following day, and was unaffected by fifteen grains of the drug taken during twelve hours. One hour after the last dose was given he vomited, but this was probably caused by over-ingestion of food.

Case VI.—Mrs. S., aged thirty, suffers occasionally with severe headaches. Antipyrine, in doses of ten grains, relieves her, but attacks very closely resembling angina pectoris have been brought on, apparently, several times, by this remedy. Exalgine was prescribed, and while it mitigated the severity of her suffering, still the effect was not so satisfactory as was desired. The usual dose of five grains was given. Phenacetin was then ordered, and it proved to be most happy in its effects, causing no angina and promptly relieving her pain.

Exalgine is best ordered in alcoholic solution. It may be given in powder or a solution flavored with some aromatic. The solution recommended by Bardet, which I have been using, is as follows:

℞	Exalgine	ʒ j;
	Rum, } Water, } ....āā	℥ iij.

M. Sig.: Tablespoonful in water every four hours, if necessary.

He also recommends the following:

℞	Exalgine......................	ʒ j;
	Kirschwasser..................	ʒ x;
	Syrup.........................	℥ j;
	Distilled water................ad	℥ v.

M. Sig.: Half an ounce three times daily.

Conclusions.—That exalgine acts favorably in some cases where antipyrine and phenacetin have failed or for some reason are contra-indicated. That the initial dose should not exceed five grains, and that care should be exercised in repeating the dose. That it probably possesses a certain degree of hypnotic power. That it may cause symptoms resembling angina pectoris. That it is expensive, which is an objection, at least in dispensary practice. That its most useful sphere of action thus far developed is in the treatment of pain. That it has the advantage of not causing irritation of the stomach, rash, cyanosis, etc., so often seen after the use of antipyrine or acetanilide.

On the whole, it will very probably prove a useful addition to the materia medica.

TWO CASES OF APPENDICITIS.*

By ROBERT MILBANK, M. D.,

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From a number of cases of appendicitis which I have seen I have selected the two following cases in the hope that the report of them might prove interesting and instructive:

Case I. *No Operation; Resolution; Recovery.*—On the 29th of July last I was called to see a gentleman who was suffering from what he supposed to be an attack of acute indigestion, he having frequently suffered after eating different varieties of fruits and vegetables. He was a man of forty-five years of age, apparently in perfect health, excepting the trouble for which he called me. His habits were regular, he had indulged in no excesses, and was evidently strong physically as well as mentally. He was a minister of a foreign country to our Government. I found him walking about his room, occasionally striking his chest with his hand and complaining of intermittent attacks of pain. He told me that he had eaten, among other things, for his breakfast a saucer of blackberries, and that he had not had any comfort since about an hour after breakfast. He was quite sure that the indigestible berries which he had eaten for breakfast were causing all the trouble. He begged me to give him something, either in the way of a cathartic or something to promote the digestion of the offending substance. He said that he occasionally suffered from these attacks of indigestion, and thoroughly understood what was the matter. He only sought medical advice for a remedy, but not for a diagnosis. I assured him that it would be impossible for me to intelligently diagnosticate his case or treat him without a careful physical examination. The recollection of several cases of severe abdominal disease which had passed unrecognized caused me to insist upon his going to bed immediately. He at first refused to undress, but proposed to compromise by lying on the lounge. He finally consented, was undressed, and went to bed. Upon examination, I found that he had severe pain extending all over the abdomen, but most severe in the epigastric region. He was tender on pressure at this point, perhaps rather more than at any other. The right iliac region presented another point of tenderness about two inches to the left and above the anterior superior spinous process. I found here a small tumor apparently about an inch and a half in length by three quarters of an inch in width. Light percussion showed dullness over this area. His temperature was 100·5 F. under the tongue; his pulse was 100, and had a sharp, quick, wiry character, somewhat hard to the touch. I suspected that he had appendicitis, and informed one of his friends who was present that he was suffering from a grave disease, and advised sending for his wife and son, who were several hundred miles from the city. I also suggested a consultation, which was promptly refused, his friends feeling very positive that I had much overrated the severity of the trouble. I, however, persuaded him to remain in bed and to allow me to procure a nurse for him. I used hot fomentations over the seat of the trouble, and administered enough Magendie's solution to keep him free from pain. I remained with him for a couple of hours, and, finding him very much relieved and somewhat drowsy, I left him for the night. I made an early visit the following morning, and found his temperature 101·5°, his pulse 110, his respirations 16, and feeling very much more comfortable. He now asked permission to get up and dress. The epigastric pain had entirely gone, the abdominal pain was scarcely felt at all, but there was a little pain over the appendix. The tenderness on pressure was only present at this point. I insisted upon having a consultation, and called Dr. Charles K. Briddon, who saw him with me about noon. He confirmed my diagnosis, and announced to the patient that his life was in danger, and that we both thought an operation would probably have to be performed.

The consultation led to the making of an appointment for the following day, unless urgent symptoms presented themselves before that time. The hot fomentations were kept up, and an occasional small dose of Magendie's solution was given. A scanty liquid diet was ordered, and at midnight the patient was feeling quite comfortable and was quite jocular over what he considered my unnecessary solicitude. His temperature and pulse at midnight were, respectively, 101·5° and 110. He passed a good night, sleeping fairly well, and in the morning his pulse was 100 and his temperature 101°. This was about his condition when Dr. Briddon saw him with me at noon. We decided to keep up the treatment and see him together again the following day. He rested well that night, and on the following morning his temperature was 100° and his pulse 90. At our consultation we decided that it would not be necessary to meet again the following day unless his symptoms changed. He was entirely free from pain, but still winced at the slightest pressure over the appendix. The mass had become reduced considerably in size and in dullness on percussion. In three days after this time his temperature, which had been normal, had a slight rise, being 100·4°. In a few hours it had fallen to normal. The tenderness over the appendix was very slight, and the patient was in all respects apparently well and desirous of getting up to resume his business. In a week he was allowed to take solid food in small quantities, and in less than three weeks from the time of the first attack he was walking around.

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* Read at the annual meeting of the Northwestern Medical and Surgical Society, December 18, 1889.

He informed me that he had once had a similar attack while making a short stay in Brazil, and that an English physician who was there pronounced it an inflammation of a part of the large intestine near the point of entrance of the small intestine.

CASE II. *Early Laparotomy; Recovery.*—Mrs. L., aged twenty-four, married eight months, had menstruated regularly during this period. She gave no history of any previous disease of any kind. She visited one of the theatres in this city on the 19th of November. During the performance she suffered somewhat from epigastric pain, which increased very much toward the close of the performance. She returned directly to her home, and, by the advice of some friends, drank brandy and Jamaica ginger. The pain diminished slightly, but was still sufficiently severe to cause her to send for me. I arrived about one o'clock in the morning of November 20th, and found her in bed with diffuse abdominal pain radiating from the epigastrium, where it was most severe. Tenderness on pressure was present all over the abdomen, the most tender point being in the right hypochondriac region. Temperature normal, pulse 72. I gave her five minims of Magendie's solution hypodermically. This, affording no relief, was repeated in about three quarters of an hour. By 2.45 she was considerably relieved and felt like going to sleep when I left her.

At seven o'clock I was again called, the pain having returned with much severity. I found her pulse 112 and her sublingual temperature 100°. Pain localized over the appendix and slight pressure caused great distress. I made the diagnosis of appendicitis. Two hours later her temperature was 101° and her pulse 120. I announced to the family the gravity of the disease and the probability of the necessity of an operation very soon. I proposed a consultation with Dr. Charles K. Briddon, who saw her with me at 2.30 the same day. After examining the patient, and learning from me the rapid appearance of serious symptoms, he agreed with me as to the diagnosis and as to the propriety of an early operation. I announced the result of our conference to the patient's husband, who, before consenting to any operation, desired the opinion of Dr. Robert W. Taylor, to which I gladly assented. Later in the day I met Dr. Taylor, and, after a careful review of the case, we both decided to call in Dr. Charles McBurney, who agreed with the other physicians as to the diagnosis and operation. Owing to the absence of Dr. Briddon from the city in the afternoon, it was not possible to perform the operation until late at night, when we all thought it had better be done, even though we should have to forego the advantages of daylight. The result has proved that we were right in losing no time. The operation was commenced by Dr. Briddon at 12.10. He was assisted by Dr. McBurney, Dr. Taylor, and myself. At this time the patient's temperature was 101·5° and her pulse 124. She had been kept moderately comfortable during the day by the frequent application of hot flaxseed poultices and an occasional hypodermic injection of Magendie's solution.

The operation occupied a little over two hours, the appendix being removed and found to be rather longer than usual. About half an inch from its junction with the large intestine a small movable object of about the size of a small pea could be felt. There was an enlargement of the appendix at about its middle, due to the presence of a hard mass in its interior, by which it was distended. About half way between this mass and its free extremity one side was very dark and gangrenous in appearance, with a correspondingly fœtid odor. The ulceration did not extend through its coats, but it was the opinion of all of us that a few hours more, perhaps twelve at most, would have terminated in perforation. I presume that the full details of the operation itself have been reported by Dr. Briddon, and I will therefore not take up any time by a description of so well known an operation here.

Four hours after the operation the patient's temperature was 100·5°. She had a little pain, which was easily relieved by hypodermic injections of Magendie's solution.

At eleven o'clock in the morning it was 101·4°, pulse 130. At 6.25 P. M. 101·8°, pulse 130. At 9.45 P. M. her temperature rose to 102.5°, and her pulse to 136, her respirations being 18.

At 12.20 A. M., November 22d, her temperature was 103·5°, pulse 136, respirations 12; she suffered considerable pain, except when under the influence of Magendie's solution. Her face was dusky and some tympanites was present. At 5.10 her temperature was 103·8°, her pulse 138, and her respirations 12.

Seven o'clock, temperature 103·2°, pulse 138, respirations 12. She did not vomit and had no movement from the bowels. The evidences of local peritonitis were very plain. At 9.45 temperature had risen to 103·8°, pulse 136, respirations 12. At 11.40, temperature 103·6°, pulse 136, respirations 12.

During all this time the patient passed urine only by catheter. She was given a tablespoonful of matzoon every three hours, and ice-water by the teaspoonful to allay thirst. She now received an ounce of sulphate of magnesium in drachm doses every hour. An hour after the last dose, the bowels not having moved, an enema of turpentine, soap, and hot water was administered. This was retained about five minutes, when a large, loose, watery movement of the bowels followed. On November 23d her temperature was 102°, pulse 120, respirations 18. On this day she again received a drachm of sulphate of magnesium every hour until eight doses had been given. The bowels moved freely, and the tympanites disappeared partly. From this time her temperature gradually fell until Sunday afternoon, November 24th, when at 3 P. M. it was 99·8°. Two days afterward she had a slight rise, temperature going to 101°. In twenty-four hours it had fallen to normal and has never exceeded that since. The wound healed very well at its upper end, but at the lower end there was some slight gaping, there was some pus at the site of the sutures, which were silk-worm gut, and the granulations were pale and unhealthy. An ointment was used consisting of an ounce of bismuth subnitrate, a drachm of balsam of Peru, and an ounce of zinc ointment. In a few days, suppuration still continuing, the use of this ointment was discontinued, and I substituted the subiodide of bismuth in powder. Its use caused a rapid discontinuance of the discharge and healing of the wound. Three weeks after the operation the patient was able to be lifted from her bed and placed in a recumbent chair.

In the first case mentioned in this paper recovery took place without operation, but it seems to me that there is little in that fact to afford encouragement for delayed operations. When we take into consideration the fact that this gentleman had had, undoubtedly, a similar attack, and that it was followed in a few years by a second attack, it seems to give warrant for the prediction that other attacks are likely to follow; and who shall say that their termination will be as fortunate as those of which we have cognizance? We all know of the case of a member of our profession who, after having had an attack of appendicitis in which spontaneous cure was effected, was compelled within six months to submit to laparotomy, which was, fortunately, successfully performed. When we come to supplement Case I with Case II and its gangrenous appendix, which gave rise to the rapid supervention of serious symptoms, it seems that we are warranted in adopting the views of those who advocate early operations for appendicitis if we are not willing to go so far as to follow those who take the very advanced view that intermediate operations should be done —namely, those where spontaneous recovery has taken place —and that all chance of future harm shall be shut off by operating as soon as health has been sufficiently restored to permit the appendix to be removed. If we have seen in Case I one of Nature's so-called cures, in Case II we can point to a human life saved by an early diagnosis and an early operation.

Correspondence.

LETTER FROM LONDON.

English Physicians in France.—The London Post-graduate Course.—The Mechanism of Suspension in Locomotor Ataxia.

London, *February 8, 1890.*

Some few months ago a notification was received at the Foreign Office from the French Government that in future the regulations by which English medical practitioners are allowed to follow their calling in France would be made more stringent. The short-sightedness of such a policy was, one would have supposed, self-evident, for, if English medical men are successful in foreign cities, it is simply because so many of their fellow-countrymen are there, and any attempt to restrict the number of English doctors will most assuredly be followed by a diminution in the number of English visitors, a result one can hardly suppose that those who have been foremost in getting up this agitation really desire, for the prosperity of most of the health resorts in the South of France is very largely dependent on the English community, both temporary and permanent. The Foreign Office communicated the information it had received to the College of Physicians, and that august body has, after due deliberation, published a most sensible document anent the whole question. The following is the gist of it: *First:* With regard to the facilities already open to French doctors of medicine desirous of practicing in England. 1. Although a French medical man possessing no British qualification can not at present be registered in this country, he is free to practice his profession without hindrance in any part of the United Kingdom, and is only subject to certain disabilities incidental to non-registration—namely, (*a*) that he can not recover his charges if disputed in a court of law, and this disability he shares with all the fellows of the College of Physicians (for it is a law of the college that no fellow may sue for his fees); (*b*) that he can not sign certificates of the cause of death; (*c*) that he is disqualified for certain public appointments. 2. A doctor of medicine of France desiring an English qualification can obtain the license of the college, which will entitle him to registration and confer the legal status of a physician, by merely passing the final or purely professional examination and paying the fee, the French courses of instruction and the examination in letters and science being accepted. *Secondly:* Clauses 12 and 17 of the Medical Act of 1886 provide for complete reciprocity as regards British and foreign practitioners holding mutually recognized qualifications, such foreign practitioners being entitled to registration in this country without examination on payment of a registration fee whenever such foreign country grants a like privilege to English subjects. *Thirdly:* With regard to English doctors in France, it was stated that there was no desire to claim for English medical men, even when holding an English qualification satisfactory to the French authorities, that they should be admitted to the privileges of French practitioners without examination and without payment of the tax to which the latter are liable, but it was suggested that the French authorities might well concede what was granted to French doctors of medicine —namely, that they should be admitted to a full professional qualification on passing a complete and practical examination in purely professional subjects. The modified form of free trade which was adopted by the framers of the Medical Act of 1886 will not, I dare say, have escaped the attention of those who read this letter.

I have read with much interest your article on the London post-graduate course, and, while agreeing with you in theory that here in London there ought to be a post-graduate school second to none in the world, I can fully appreciate the difficulties there are in the way of the attainment of such an object; only to mention one point, the great majority of the physicians and surgeons to our metropolitan schools are giving up on an average two hours a day to hospital and school work, and, allowing for time spent in getting to and from their residences to the hospital, it is no exaggeration to say that more than three hours a day are thus occupied. Many of them have also insurance work or some similar engagement, which means at least one afternoon a week, so that when they are asked to devote time to teaching people who have been inefficiently taught elsewhere (for that is the way they look at it) I do not think one can be much surprised if they do not take to the proposition very enthusiastically. I am told that there are only about twenty entries for the course that is now going on, so that it is not a great financial success.

At the last meeting of the Medico-chirurgical Society a paper was read by Dr. Cagney on the suspension treatment of ataxia. He had found that the effect of suspension was to cause a shortening of the distance between the first dorsal and last lumbar spines, and that a total shortening of the spinal column was obtained, that in the lumbar region the cord was unaffected or slightly relaxed, in the cervical region the membranes were somewhat stretched, while in the dorsal region the cord was a little shortened. He believes that the benefits of suspension are due partly to the breaking down of adhesions and partly to the removal of impediments to the circulation. The subject is to be discussed at the next meeting of the Neurological Society.

The New York State Medical Association.—The next meeting of the Fifth District Branch will be held in Brooklyn on Tuesday, May 27, 1890. All fellows desiring to read papers will please notify the secretary, Dr. E. H. Squibb, P. O. Box 94, Brooklyn.

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COW'S MILK AND THE TUBERCULOSIS OF MAN.

It is said that about one seventh of the human race fall a victim to tuberculosis. Surely, then, it is of great importance that the nature, origin, and prevention of this disease should be sought for. Modern research has found already the essential cause of the disease in the living organism, the *Bacillus tuberculosis.* Whatever chemical poisons may directly produce the bodily changes of this malady, whatever secondary processes may ensue, it is pretty certain that the bacillus is at the bottom of them, and it is probable also that it is the medium by which the disease is ordinarily conveyed from one individual to another. The disease originates, as far as we know, in only one way—namely, by infection. With the immense existing possibilities of inoculation from without, we need hardly consider as yet the possibility of origination *de novo* in the uninfected body.

Little progress has been made so far in the *cure* of the disease. Medication, with this object in view, has generally, if not always, resulted in ultimate failure. Realizing the danger and the difficulty of checking the ravages of this malady by medication of the affected, our thoughts have gradually been turned toward the prevention of its spread from the infected to the healthy body. Much stress has been laid on isolation of the sick and disinfection of the discharges, and, if the means recommended could be applied, a great step toward the goal would be taken; but these recommendations can not now be carried into effect and never will be. Moreover, it is probable that only a part, and perhaps only a very small part, of the cases that occur arise from the infection of one human being by another. The resistance offered to its entrance into the human body by the ordinary channels is so great, and the amount of diseased matter received by contagion from consumptives is so small, that we are driven to look elsewhere for the sources of infection. Probably but few cases are due to direct inheritance from diseased parents.

One source of origin is receiving at the present time a great deal of attention, and it seems probable that this research will result in great and practical discoveries. It is now known that tuberculosis is very common in the cattle whose flesh forms such a large part of our food. Were it not for the protection given by cooking, the history of this disease would perhaps be a much sadder one than it is. But there is one sort of animal food derived from the cow which is taken uncooked. Is it not possible that cow's milk is the great source of the infection of our race? It is stated that the appearance of tuberculosis among certain tribes of men dates from the time when cattle from dairy farms were introduced. It is further stated that fifty per cent. of dairy cattle suffer at some time from tuberculosis. The important point to investigate is, whether tuberculous infectious matter is found in the milk of tuberculous cows. We may readily believe that it is, when the milk-secreting or milk-containing surfaces are diseased. The only question left therefore is, whether the milk of tuberculous cows is likely to contain tubercular infectious matter when there is no apparent tubercular disease of the udder or teats. This can be determined only by direct and careful experiment.

An article of Dr. Ernst, in the American Journal of the Medical Sciences, by which the foregoing remarks were suggested, contains the results of such experiments. If its statements are confirmed by further observation, no one need wonder longer at the prevalence of this dread scourge of our race, or remain ignorant of the proper methods of preventing its ravages. If cow's milk is the great carrier of tuberculosis, then it must be cooked, like any other animal food. Dr. Ernst's experiments were made in the most careful way. The buildings in which the cows were kept were cleaned, scrubbed, washed with bichloride-of-mercury solution, and then whitewashed. Before the cows were milked, the udders and teats were thoroughly cleansed. The milk was drawn into sterilized flasks and examined for the *Bacillus tuberculosis.* Milk was thus taken from thirty-six cows, all presenting distinct symptoms of tuberculosis, but none having discoverable disease of the udder or teats. In the milk of ten of these cows the *Bacillus tuberculosis* was found—that is, in 27·7 per cent. The cream, after rising, was found to contain bacilli nearly as often as the milk upon which it floated. Numerous inoculation experiments were made with the milk upon rabbits and guinea-pigs, producing tuberculosis in many cases. Feeding experiments on calves and young pigs gave similar results. These experiments were made under the auspices of the Massachusetts Society for the Promotion of Agriculture, the microscopic work being done at the society's laboratory and in that of the Harvard Medical School.

THE TREATMENT OF THE ACUTELY INSANE IN GENERAL HOSPITALS.

Last year a revised code of lunacy laws, under the name of the Gallup Lunacy Bill, passed the New York Legislature, and only failed to become a law by the opposition of the Governor. The same bill is to be introduced again at the present session. The New York Neurological Society, at its January meeting, appointed a committee, consisting of Dr. Frederick Peterson, Dr. Charles L. Dana, and Dr. Ralph L. Parsons, to examine and report upon this proposed new law. After commenting favorably upon some very excellent features of the bill, and after vigorously opposing the method of commitment prescribed therein, this committee closed its report at the February meeting with a number of recommendations, among which one in particular is deserving of careful attention, because of the novelty of the suggestion. We refer to the following: "A clause should be introduced into the bill providing that nothing in the lunacy laws of the State shall be construed to interfere with the reception and treatment of acute cases of insanity in chartered general hospitals, in the same manner and under the same conditions as patients suffering from other diseases are there received and treated, provided such hospitals have suitable accommodations approved by the State Commission in Lunacy."

In our opinion, this is the most valuable portion of the committee's report, for it suggests a step forward in the line of a great reform. The day of huge aggregations of persons with chronic and acute insanity in the palatial caravansaries known as asylums, where the mere attendance to the physical wants of the patients is often deemed sufficient therapeusis, is about to pass away. The insane are no longer to be considered in the light of dangerous criminals, and asylums are not always to bear the stigma of existing as a species of jail. What is the fate of a person with acute, curable insanity—one that could recover in from three weeks to three months—when sent to one of these "cathedral" institutions? His personality is entirely lost in the horde of from six hundred to two thousand mad people among whom he is placed. The superintendent, usually busy with the farming and plumbing, seldom has time to see the patients. A young assistant physician, commonly of small experience, takes the patient in hand along with the two hundred that he is to see twice daily. He can not spend more than three hours if he will with the two hundred patients, because the clerical work required of him consumes not only most of his day, but part of his night. The patient is considered, not as an individual, sick and requiring treatment, but in relation to the other patients of the ward. Does he disturb others? Then narcotize him. If that is impossible, put him into the pandemonium known as the "back ward." There his sick brain, before haunted only by his own phantasmagoria, beholds materialized the hideous specters of his imagination. And it is doubtful if any one in delirium has ever seen aught to compare with the waking nightmare of a "back ward" in some asylums.

Doubtless most asylum authorities do all in their power to improve the environment of their charges as far as is possible under present conditions, but proper individualization must necessarily be unattainable in such a concourse of people and with such small assistance. Hence it is that of late the question of radical reform in the present methods of caring for the insane has become more and more prominent. They are hereafter to be treated, at least in the earliest stages of their aberration, like other sick persons, only with greater delicacy and care, because the most complex and sensitive organ of their bodies is the one that is diseased.

We read of the provision of reception houses in New South Wales and Queensland, and of lunacy wards in public hospitals in Victoria, for the treatment of insanity in its early stages. A psychopathic hospital with a hundred beds is about to be built in London, the administration of which is not to differ from that of a general hospital. The staff is to consist of a resident medical officer of asylum experience, and assistant, four visiting physicians, a consulting surgeon, an ophthalmologist, an aurist, a laryngologist, a gynæcologist, and a pathologist. A still later step in the direction of reform is the organization of an out-patient department at the West Riding Asylum, near Wakefield, England, which is calculated to change the present routine line of action completely with regard to the early treatment of the insane poor.

With these facts in mind, we can not speak too favorably of the action of the committee of the New York Neurological Society. Their proposition to place it in the power of the sixty-three chartered general hospitals of this State to open special wards for the reception of the acutely insane, under the same conditions precisely as other classes of patients are received, would lead to vast improvement in the early and efficient treatment of the nutritive disorders of the brain. It would create a number of reception wards in various parts of the city and State, where there is now absolutely no place for such purpose. Bloomingdale is overcrowded and about to be removed from the city. The method will lead to greater individualization, a deeper scientific study of insanity, and the training of nurses and practitioners for the better recognition and care of insane patients in their own homes, and many will recover without having attached to their name and reputation the inevitable stigma of having been in an asylum.

MINOR PARAGRAPHS.

THOMSEN'S DISEASE.

The British Medical Journal contains the report of a case of Thomsen's disease, given jointly by Mr. Alexander Cook and Dr. Benjamin Sweeten, of Cardiff. The congenital element in the case is clearly made out, and also the fact that it was inherited, the patient's father and two other members of his family having moderate manifestations of the trouble. The patient, aged nineteen years, a joiner, has never been free from the infirmity, so far as he can recall his early history, and his mother noticed it very early. He is able to rise from a sitting posture without difficulty, but can not begin to walk at once, and stands helpless for some seconds—about ten—although evidently making a strong volitional effort. When once started, he can, after a few steps, get along with moderate ease. A similar difficulty arises if he attempts to change from a walk to a run or to step high. The muscular spasm remains from five to ten seconds, resisting all voluntary efforts to overcome it. This is true of some other parts of the body besides those concerned in locomotion, especially the arms and neck; for example, he can not shake hands—he is able to grasp the proffered hand, but he can not shake it and can not loose the grasp immediately. His eyes do not share in the muscular spasm. His general muscular development is good, especially that of the lower extremities; his appearance is healthful and he has never had a day's illness in his life, he says, other than this spasmodic affection. He has not been able to join in the ordinary boy's sports, from being unable to start promptly, for instance, or to run or to kick. He has used neither tobacco nor alcohol in any form. According to his observation, the disease is progressive, and it is always more manifest when he is fatigued or unnerved by any circumstance or when his attention is directed to the infirmity. The treatment, as in all other cases hitherto recorded, has been futile. This case differs somewhat from the typical reported cases in the fact that the check to the initial movement does not occur, but to any movement immediately succeeding that As ordinarily observed, the check to movement takes place, for example, when the patient attempts to rise from the sitting posture, which will be very difficult. But in this patient the halt does not take place until just after the initial movement has been performed; he rises from his chair readily enough, but his efforts to step forward, when in the erect posture, are the point of resistance.

A PROPOSED PASTEURIAN INSTITUTE AT CAMBRIDGE UNIVERSITY.

There is a strong movement on foot in London and vicinity to establish a Bacteriological Institute of Preventive Medicine in connection with the University of Cambridge, provided the sum of fifteen hundred pounds is forthcoming for that purpose. According to the London Medical Recorder, if the British Medical Association, the Royal Society, and the Royal Agricultural Society will each give one fifth of that amount, the Government and the general public may be relied upon to contribute the remaining two fifths, and thus assure the success of the project. As it now stands, hardly a week passes by without seeing some bitten persons crossing the Channel to be treated at the Institut Pasteur. Those who are too poor to afford the expense of a visit to the French capital may avail themselves of a fund raised to send over such as require antirabietic treatment. The donation of forty thousand francs to M. Pasteur, through the efforts of the Lord Mayor of London, Professor Huxley, Sir Spencer Wells, Mr. Ernest Hart, and others, testified that the English were not unmindful of the immense benefits conferred upon those of them who had undergone the treatment at Paris. It would, in the minds of some of the committee having charge of the Pasteur fund, have been wiser to use some of the money to begin the foundation of a Pasteurian memorial institution at or near London, but it was decided not to divide the fund, so that, as the British Medical Journal remarks, "we must be content at present with the knowledge that no one need die of hydrophobia for want of means to avail himself of M. Pasteur's charity."

EXOPHTHALMIC GOÎTRE.

In the Revue générale de clinique et de thérapeutique we find a summary of the views of various observers concerning the complexus of symptoms known as exophthalmic goître. These symptoms, according to Jaccoud, appear usually in the following order: palpitation, dilatation of the arteries, enlargement of the thyroid, and exophthalmia. These conditions are in a measure dependent upon one another. Excitation of the sympathetic brings about acceleration of the heart's action. Diminished arterial tension accompanies the vascular dilatation that is induced by and in turn increases the tachycardia. Arterial dilatation causes the presence of an abnormal amount of blood in the cilio-spinal region, whence start the palpebral and ciliary nerves, and this excitation explains the ocular manifestations. There are numerous inconstant symptoms in this disease, such as paresis of the capillaries, so that the lightest scratch leaves a persistent red mark; also a very trying sensation of heat that the patients experience; and sometimes excessive perspiration and tremor. This latter symptom Charcot considers constant. In reality, it is merely frequent. The oscillations of the hands are remarkable for their regularity. Diminution of automatism in the upper eyelid (von Graefe's symptom) is not constant. The psychical manifestations are sadness, "desperate cheerfulness," and even mania. Vomiting, more or less frequent, occurs in certain persons, as well as diarrhœa without appreciable cause, lasting for several days consecutively. A symptom of profound gravity is jaundice. From the moment that a yellow tinge sets in, a prognosis of imminent danger may be given. Glycosuria, albuminuria, and simple polyuria are common. Exophthalmic goître is a general neurosis, according to Charcot, bearing a certain marked resemblance to hysteria in point of variability of symptoms, psychical manifestations, duration, and heredity.

NAPLES AND TUBERCULOSIS A CENTURY AGO.

At a recent meeting of the Paris Académie de médecine, reported in the Union médicale, M. Sée read the following decree, issued a hundred years ago by the King of Naples: "Every physician is henceforth required to report to the authorities every case of consumption the instant it is recognized. Failing this, a fine of four hundred ducats will be exacted; and for a second offense, banishment for ten years. Poor patients shall at once be taken to the hospital. Their clothing and linen shall be kept and cared for apart from those of other patients, and an inventory be made. In case of death, every article must be produced and identified by the hospital superintendent. Any infringement of this rule may be punished by imprisonment or the galleys. It is the duty of those in authority to renovate the room of a former patient—floor, hangings, and furniture-coverings—to burn the window-frames and doors, and to replace them by new ones. The extreme penalty of the law will be visited on any one buying or selling the effects of phthisical patients. Every house where a consumptive dies shall be blacklisted." The decree was enforced up to the year 1848, but, according to M. de Renzi, proved no impediment whatever to the prevalence of tuberculosis.

"ETHERIZED" NITROUS OXIDE.

Dr. J. F. W. Silk, anæsthetist to Guy's Hospital, London, has devised an apparatus which enables him to add the vapor of ether, at will and in known proportions, in anæsthetization begun with nitrous oxide alone. By his procedure the posture of the patient may be either upright, supine, or semi-recumbent. The mouth is by preference propped open, as for tooth extraction, but this is not essential. The phenomena produced by inhalations of ether and nitrous-oxide gas together he has not found to differ much from those following the use of the gas alone. Young children and bronchitic subjects may have a spasm of the laryngeal muscles with cough, but they commonly subside quickly. The duration of the primary anæsthesia, in his hands, averages forty-seven seconds, or long enough for the performance of a minor operation. The after-effects are proportionate to the amount of ether inhaled, in cases where a prolonged anæsthesia is required. A description of the apparatus, with illustrations, is given in the British Medical Journal.

ŒDEMA OF THE GLOTTIS IN INFLUENZA.

At Copenhagen the physicians have noticed a complication of influenza that elsewhere has not been common. This is rapid and intense œdema of the glottis, rendering tracheotomy necessary to prevent asphyxia.

THE VERMONT MEDICAL COLLEGE OF RUTLAND.

An important case in Vermont has been set down for February 25th in the Supreme Court of that State, to determine the standing of a so-called medical college that has been grinding out diplomas for two years. Twice a year an alleged faculty of one would go from Boston to Rutland with a group of intending graduates, a "commencement" would be held, and diplomas would be given out in the name and under the charter of the Vermont Medical College of Rutland. The college generally remained in town one day, and was apparently possessed neither of students nor of the customary appliances for instructing them. The Medical Club of Rutland has denounced this so-called college in published resolutions, and a license to practice in the State has been denied to its graduates.

INFLUENZA CONSIDERED AS A PNEUMOGASTRIC NEUROSIS.

M. Vovart, of Bordeaux (La grippe et sa pathogénie, Paris, 1881), looks upon influenza as a neurosis of the pneumogastric nerve. Huchard (Revue générale de clinique et de thérapeutique, Jan. 16, 1890) states that the action of the poison falls upon the central nervous system and upon the peripheral nerves, attacking the pneumogastric in its several branches most violently, producing, through its cardiac branch, syncope, arrhythmia, intermittence, bradycardia, tachycardia, anginiform difficulty, and sudden death; through its pulmonary branch, pneumonia, hæmoptoic pulmonary congestion, pulmonary œdema, bronchial paralysis, and a pertussis-like cough thought to be due to compression of the nerve by enlarged tracheo-bronchial glands; and, through its gastric branch, vomiting and various gastro-intestinal troubles.

THE AMERICAN LEPROSY FUND SOCIETY.

An organization bearing this title has recently been begun by the friends of Miss Fowler, better known as Sister Rose Gertrude, who proposes to devote her life to the Hawaiian lepers, in affiliation with a society in England having a like name. The purposes of these societies are the amelioration of the lot of the lepers and study of the disease. The lady has been trained, under M. Pasteur and in other ways, for the special work of observing and treating this disease. A number of medical men have united in this movement.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 18, 1890:

DISEASES.	Week ending Feb. 11.		Week ending Feb. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	17	8	13	6
Scarlet fever	78	6	85	11
Cerebro-spinal meningitis	3	0	1	1
Measles	76	11	82	3
Diphtheria	124	30	82	35
Varicella	0	0	8	0

The Alumni Association of Bellevue Hospital Medical College.—The annual dinner was held at the Fifth Avenue Hotel on Saturday evening, the 15th inst., Dr. Henry Goldthwaite presiding. The attendance was large and the occasion seemed to be duly enjoyed. Among the speakers were the Hon. Grover Cleveland, Dr. T. Gaillard Thomas, Mr. St. Clair McKelway, Commissioner Porter, Dr. William T. Lusk, Dr. D. B. St. John Roosa, Dr. Landon Carter Gray, and the pastor of St. Leo's Church.

The Centralblatt fuer Nervenheilkunde.—It is stated in the British Medical Journal that the editor of the Centralblatt, Dr. Erlenmeyer, has been forced by the pressure of other duties to abandon the editorship, and that the publication is to be discontinued.

The late Dr. Charles S. Wood.—At a meeting of the New York County Medical Association, held February 17, 1890, the following resolutions were adopted:

Resolved, That by the death of our president, Dr. C. S. Wood, our association has been deprived of one of its earliest and most valued members—one whose constant presence rendered its labors more efficient and whose counsel warned against many dangers.

Resolved, That his industry and zeal were always an example to us, his contributions to the work of the association of a high order; and, further, that his deportment dignified its objects.

Resolved, That, in tendering our condolence to his family, we trust that their grief may be tempered with the remembrance of his many excellent traits and abundant virtues.

The Library of the British Medical Association.—The Library Committee of the association invites attention to the following needs of its library, from this side of the Atlantic, in order to complete sets: Transactions of the American Surgical Association, vol. iv; Transactions of the College of Physicians of Philadelphia, vols. vi, vii, and x of the third series. The association now has commodious reading and writing rooms for the use of its members, at No. 429 Strand, London, with the nucleus of a reference library.

Typhus Fever.—The City Board of Health gives notice that typhus is prevalent in lodging-houses in some of the ports of northern Europe, and the board's chief inspector, Dr. Cyrus Edson, states that nine cases have occurred in New York since December 24th, in all but two of which the infection seemed to have been brought from Antwerp. Physicians are consequently cautioned to be on their guard against the disease while visiting in tenement-houses, and are reminded of the desirability of reporting all cases to the board.

The late Dr. Lewis Hall Sayre.—At a meeting of the New York County Medical Association, held February 17, 1890, the following minute was adopted:

The sadly sudden death of Dr. Lewis Hall Sayre enrolls another name in the memorable list of those who have nobly laid down their lives in devotion to the duties of our profession. In the very flower of early manhood, the brilliantly promising career opening before him is closed in this world by an act of self-sacrifice as heroic as aught that history tells of warlike prowess. The call to relieve another's suffering found him regardless of his own, and, thinking only of the good deed to be done, he perished in its unselfish doing. No greater meed of praise can earthly chronicle record than that a man so honored his high office as to give his life for it; no better assurance of the heavenly welcome to a good and faithful servant. This association, to the expression of its own grief at the loss of an associate whose qualities of heart and mind commanded affection and respect, desires to add its profound sympathy with those who are bereaved of the son, brother, and husband in whom their love and pride were justly centered.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending February 15, 1890:*

Bates, N. L., Medical Director. Ordered to the Naval Hospital, Mare Island, Cal.

Society Meetings for the Coming Week:

Monday, *February 24th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *February 25th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Boston Society of Medical Sciences (private).

Wednesday, *February 26th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society; Philadelphia County Medical Society.

Thursday, *February 27th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *February 28th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *March 1st:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of Januarg 23, 1890.

Dr. E. H. Grandin in the Chair.

The business of the meeting began with the election of officers for the ensuing year, Dr. E. H. Grandin being elected chairman and Dr. I. H. Hance secretary.

Operations on the Anterior Vaginal Wall; New Method.—Dr. A. F. Currier described by diagram a modified method for the restoration of the normal caliber of the vagina in cases of cystocele and prolapse of the uterus. The operations hitherto in vogue upon the anterior vaginal wall were very often a failure. Instead of the anterior wall being shortened, it was often even somewhat lengthened. He had tried his method in one case only, but thought that was sufficient to test its value as a plastic procedure. It had worked very well. Healing had been prompt, while the vagina had been restored to a condition like that of a nulliparous woman. By following out the lines of denudation and methods of suturing, as depicted by his diagram, he asserted that not only was the anterior vaginal wall lessened in longitudinal measurement, but there was also permanent reduction in the lumen of the canal in transverse diameter.

The Chairman said that if Dr. Currier had succeeded in devising a method by means of which the recurrence of cystocele might be obviated he was entitled to great credit. His own experience with cystocele had led him to take exception more or less to all the methods devised.

Dr. Hanks said that though the operation had to be performed in order to give patients relief, still it afforded no permanent cure, as the parts were sure to stretch again, the cause of the mischief still remaining. If Dr. Currier had succeeded in devising some improvements it was very gratifying. The speaker had discarded the use of catgut in operations upon the anterior vaginal wall, depending now upon silk or silver wire.

Dr. H. J. Boldt did not think that any method yet adopted would give satisfactory results where cystocele existed. They all might do very well at first, but would not stand the test of time.

Dr. A. P. Dudley thought the simplest method was always the best. That of Dr. Currier appeared complicated. He was in the habit of following out the old-fashioned method of Sims and making an olive-shaped denudation close up to the cervix.

Four Successful Cases of Supravaginal Hysterectomy for Uterine Fibroids.—Dr. J. R. Goffe read a paper with this title. He said that it was a well-recognized principle that the only way to finish any abdominal operation was to restore the parts as nearly as possible to their normal relation in the abdomen. It was only under the most extraordinary circumstances that the pedicle of an ovarian tumor was not returned to the abdominal cavity. But the treatment of the stump after supravaginal amputation of the uterus was usually by fixation in the abdominal wound. While this method offered the greatest safety, it had many unpleasant sequelæ which were opposed to the principle before mentioned. In relating the details of his operations, Dr. Goffe hoped to bring out a few points which seemed to fill the requirements necessary to success in the treatment of the stump after supravaginal hysterectomy.

Case.—Ann M., aged forty, widow, never pregnant. For the past three years she had suffered with constant backache and with difficult and painful defecation. Menstruation was normal. Examination had disclosed a hard, irregular fibroid tumor entirely filling the pelvis. After the abdominal incision was made, it was with the greatest difficulty that the tumor could be lifted out of the pelvis. The first step was to dissect off the bladder-tissue, which had spread itself all over the anterior face of the tumor. The incision followed the curve of the base of the bladder through the peritonæum across the face of the tumor, dissecting off the bladder down to the vaginal junction. An elastic ligature was then thrown around the entire mass, including the ovaries and tubes of both sides. The main part of the tumor was now cut away, but before severing the connection of the broad ligaments the uterine extremity on each side was grasped by a strong clamp forceps, to prevent slipping of the ligature. The pedicle was transfixed, below the elastic ligature but within the flap, with strong Chinese silk, and tied on either side. There was no hæmorrhage after removal of the elastic ligature. The stump was trimmed down as near to the ligature as was deemed safe, and the point of opening of the cervical canal thoroughly cauterized with pure carbolic acid. The flaps of the peritonæum were now drawn up over the stump like a hood and firmly stitched along its entire border with continuous catgut suture. The stump was thus shut out of the peritoneal cavity and was dropped back into the pelvis. The abdominal wound was closed and the patient put to bed. The tumor was a hard multiple fibroid, irregular in shape, and weighed six pounds and a half. The patient reacted well from the operation, and had no untoward symptom until the fourth day, when the temperature went up to 101·5°, and on the fifth day to 102°. The patient was lifted on to a table and a bivalve speculum introduced into the vagina. The cervix was exposed and a Simpson's sound passed without difficulty, followed by the steel dilators. A gentle amount of pressure gave exit to about half an ounce of pus and broken-down tissue. A double female catheter was passed and the cavity washed out with carbolized solution. A nickel drainage-tube was inserted, to which was attached a rubber tube for frequent washings. The dilatation was repeated every third day, and the cavity thoroughly cleansed. From this time on the temperature remained normal, and the discharge was reduced to that of an ordinary leucorrhœa. The patient had made an uninterrupted recovery, and at the end of five months after the operation had married again, and felt herself in perfect health.

The success of this case had led Dr. Goffe to think that out of the principle might be adapted a systematic treatment of the stump. It would be remembered that the pedicle, ligature, and all of the raw surfaces were covered by the flap, so there was not even a needle puncture through the peritonæum, except along the edge of the flap, where it was stitched by the catgut suture. This was important, and could be secured by properly reflecting the peritonæum around the stump before transfixing the ligature, and then passing the ligature between this peritoneal sac and the uterine tissue. By bringing up the reflected peritonæum and stitching it carefully along the top of the stump, no escape of pus need be feared. With the peritoneal cavity thus protected and the cervix always accessible for drainage, a safe method at least seemed to be afforded. The three other cases had presented pretty much the same clinical condition as the one described. In the operation the same principle was carried out in regard to the treatment of the stump and of drainage. The patients had all made good recoveries. The operation could with truth be called the intra-abdominal but extraperitoneal method. The advantages of this operation were that it had all the elements of safety of the other operations and that it left no ligatures in the pelvis to give trouble, and, above all, it restored the organs to their proper relation in the pelvis.

Dr. Dudley said he had described an operation essentially similar to those by Dr. Goffe. He had, however, successfully avoided the possible occurrence of hæmorrhage during the operation by a quilting suture of catgut, extending down each broad ligament as far as the *cul-de-sac*. This controlled bleeding from the uterine and ovarian arteries and the pampiniform plexuses.

Dr. Boldt thought that Dr. Goffe was to be congratulated on the success in his four cases. The method was an exceedingly interesting one and appeared to offer great chances of success. The speaker favored one procedure which Dr. Dudley had mentioned, which was the use of catgut throughout. As to the removal of uterine fibroids, it should be remembered that there existed no case upon record in which the patient had died from the growth directly. The operation might be justifiable in cases where the patients were clamorous for such interference, but he could not but feel that to operate in these fibroid cases until everything else had been tried was a proceeding to be deprecated. Such brilliant results had been obtained by the method of Apostoli that it ought to be given a fair chance, and when galvanism failed it was time to think of other procedures. When sloughing took place it was time enough to think of operation. He favored the removal of the body of the uterus with its tumor from above, and the cervix through the vagina. This operation was very quickly done and was very satisfactory. Any ideal method of operation had, so far, not been reached, and while galvanism offered such good results it was not likely to be found. These tumors did not produce death, and the operation was fraught with great danger.

Dr. Dudley did not see any use in taking out the cervix. Doing so destroyed the vault of the vagina and weakened the tissues generally and left a predisposition to hernia.

Dr. Janvrin remembered assisting Dr. Goffe in his second operation. It was a very formidable tumor, but the whole operation had been got through with well and had been followed by a perfect result. For drainage the speaker thought he should prefer to retain a male catheter in the lower end of the cervix. He did not believe it would do any harm.

The Chairman thought that the method reported was certainly the best for treating the pedicle in cases where hysterectomy was indicated. He was glad to hear Dr. Boldt record himself as opposed to operative procedures for fibroids of the uterus. He would oppose it in all cases unless the growth was giving rise to pressure symptoms. The history of these tumors showed that they disappeared at the menopause, while it was well known, on the other hand, that many patients had succumbed to the operation of suprapubic hysterectomy. The curette, repeatedly used if necessary, would be found effective enough against hæmorrhage, as would also intra-uterine galvanism. Then ergot and cotton-root might be used with such advantage in palliating even pressure symptoms that, if a patient of his were near the menopause, he should advise her to wait. Still he could not but regard the results which Dr. Goffe had achieved as little short of marvelous, for very few men could point to four consecutive successful cases of suprapubic hysterectomy.

Dr. Goffe, in reply, explained that he had not operated without due regard to the conditions existing. His cases, all but the last, had been cases of subperitoneal multiple fibroids, which electricians regarded as not amenable to their method of treatment. He insisted that it was bad practice to manipulate the vagina in any way during these operations.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN LARYNGOLOGY AND RHINOLOGY.

Meeting of January 28, 1890.

Dr. S. O. Vanderpoel in the Chair.

The preliminary business was devoted to the election of officers, Dr. S. O. Vanderpoel being elected chairman and Dr. J. E. Nichols re-elected secretary.

A Method of correcting Adhesions between the Soft Palate and the Pharyngeal Wall.—A paper with this title was read by Dr. J. E. Nichols. He said that, as this subject had been dealt with very fully at different times, he would confine himself in this instance to the treatment. The class of cases in question were those which presented a partial or total occlusion of the passage between the naso-pharynx and the oro-pharynx, caused by abnormal adhesions of the posterior faucial pillars, the edge of the soft palate, the uvula, and the pharyngeal wall, at any level. These adhesions were mainly of syphilitic formation, the minor number being the result of acute inflammatory diseases, such as diphtheria, acute suppurative amygdalitis, acute ulcerative pharyngitis, the "sore throat" of the exanthemata, and so on. As a rule, they were thin membranous curtains having their origin lower down than the palatal level, not of very great extent nor very distressing to the patient. But cases were met with of far greater extent and gravity, which did not yield to ordinary methods of separation, but repeatedly recurred and defied any amount of cutting and stretching to which they might be subjected. These were the cases in which the adhesions were of fibrous and muscular growth, of variable thickness, and which reached above the palatal level into the naso-pharyngeal vault, and so caused occlusion of one or both nostrils. In some cases the adhesions were so broad as to almost completely close this space, the vault presenting a smooth uniform surface, emphasized by the central opening, which might admit the play of the uvula if that part was not involved in the process. Complete occlusion was of very rare occurrence, owing to the opening being a respiratory and secretory thoroughfare. It was to this fact that in syphilitic patients Nature provided a partial relief in the occasional active ulcerations which destroyed sufficient tissue to allow a good-sized opening. These were the cases which gave the most discouraging prognosis, as to both cure and palliation. Mackenzie had said of them that, "though great relief can be afforded to the patient as long as he remains under treatment, no cure can be predicted, as the stenosis always returns when mechanical measures are suspended." Scheck had said "the results, as regards improvement and restoration of speech, are generally very unsatisfactory." The consensus of opinion accorded with this unfavorable prognosis. The speaker believed that these patients could be permanently relieved by the operation he would describe in this paper. He first briefly recapitulated the methods which had been used and those which were now in vogue. Elsberg had separated the parts by means of a blunt-pointed staphylorrhaphy knife, then forcibly dilated with the finger, and had the patient use daily a hard-rubber palate retractor to prevent readhesion. Dieffenbach, after incision, had drawn the soft palate forward as far as possible by means of a ligature passing out of the mouth and fastened to the ears.

Others, after incision, had inserted tubes or rings of metal or rubber, of appropriate shape and size. These were kept in position by being suspended from two strings passed through the nostrils or by spring clips fastened to the teeth, or by suction in the roof of the mouth, as in the case of the dental plate. Others had used sponge tents, hard and soft bougies, air-bags, etc., while some had striven to do plastic operations of various kinds. At the present time these measures had largely given way to the repeated use of the galvano-cautery knife and subsequent digital or mechanical dilatation. Dr. A. H. Smith had suggested the application to the cut surface of a saturated solution of monochloracetic acid, which had the peculiar property of leaving the eschar until cicatrization had taken place beneath it. But all these operations and practices had one defect in common, fatal to their success, which allowed the reproduction of the original method of the adhesion. The defect was that, no matter how deep the incision had been made, or how much tissue had been excised, or how strong or persistent dilatation had been exercised, the cicatricial tissue steadily advanced in the process of healing from the bottom of the cut. If the denuded surface was to heal at once through its entire extent, a simple incision would be sufficient to cure the most obstinate case, but this never occurred. Whether the denuded surface was cutaneous or mucous, healing always began from the edge and progressed toward the center. By this means it gained support for the new formation from the healthy surface behind it. This was the chief characteristic of cicatricial tissue, and was the very cause of the adhesions under consideration. The operation proposed for getting over the difficulty was a new one only in its application to this class of deformities.

In the case of congenital or acquired webbed fingers or toes we had an exactly analogous condition of things, pathologically speaking, and one which presented the same difficulties in the way of treatment, although the resulting symptoms were not so distressing. Doubtless there was not one of the gentlemen present who had dealt with these cases but had found himself hindered in effecting a cure by mere incision or excision of the web until he had been driven to apply the principle that a healthy cicatricial surface of greater or less extent must be obtained at the bottom of the web near the junction of the fingers before separation of the rest of the web was made. When this principle was carried out, success was inevitable and immediate. There being already a healthy cicatrix at the bottom, the separated parts had no means of coming together by adhesion starting from that point, and consequently healed with a line of cicatricial tissue on either finger, but no connecting web. The first step in the speaker's operation was to thoroughly cocainize the part. If there was complete closure, the thickness of the adhesion was ascertained by passing a curved steel bougie through the nostril into the naso-pharynx and palpating the end of it by means of the index-finger in the oro-pharynx. When this was done, an incision with a long-handled, sharp-pointed bistoury was made in the median line upon the end of the bougie. The next step was to proceed as if the closure had been only partial. An ordinary staphylorrhaphy needle, curved to the right or left, as the case might be, was now armed with four or eight strands of coarse black silk suture. It was then passed through the central opening into the naso-pharynx and carried as far as possible directly outward away from the median line. Then, by a turn of the handle, it was brought into the oro-pharynx. The tissue being very tough, it was necessary to afford a point of resistance by a long forceps against the palate anteriorly. One end of the suture was then grasped with a long toothed forceps, the needle was withdrawn, and the suture left in place. The long ends of the strand were then tied with a surgeon's knot near the central opening, leaving the loop loose enough to play freely through both perforations. If the adhesion was bilateral, the same was done on the opposite side. The loop was then drawn around so that the knot lay in the naso-pharynx above the adhesion. The suture was moved slightly from day to day, and at the end of from ten to fourteen days healing had taken place, and there remained a small canal of cicatricial tissue slightly larger than the diameter of the suture, through which the latter worked freely. Traction was now made on the loop toward the median line, in order to stretch the canal, and into it was introduced very carefully a narrow blunt-pointed staphylorrhaphy knife curved on the flat. The tissue between the two openings was then cut through and the parts were kept dilated by the finger or a retractor until they healed. Care had to be taken in introducing the knife to make no abrasion in the line of the canal, or the effect of the operation would be nullified. The hæmorrhage was slight and controllable and the pain not great. Some nausea and gagging were produced at first by the pressure of the loop, but the pharynx soon became tolerant of the foreign body, and deglutition was but little interfered with. The chief difficulty met with was in the introduction of the curved needle at the proper angle to bring the point into the pharynx without engaging part of the faucial pillars. This could be done successfully by holding the handle high against the upper teeth and recollecting the angle of the curve. As the operation was still imperfect, the speaker felt that it was too early to assert great things for it; but the patients on which he had operated had been so greatly benefited that he thought it was of value, and hoped his experience would be a means of inducing its further trial. The speaker then presented several patients upon whom he had operated successfully by the method described.

The CHAIRMAN said such cases were difficult to handle. Treatment by the galvano-cautery knife was not sufficiently encouraging to warrant any one in following it up. The idea upon which Dr. Nichols had acted—of forming a cicatricial base at the end of the incision—was evidently a correct one. The first patient exhibited showed the best results the speaker had ever seen following an operation for this sort of trouble.

Dr. C. C. RICE said he had seen a number of these cases and had tried to relieve the patient, but with no success whatever. He did not think Dr. Nichols was overestimating the value of his method, for it was the first scientific and useful operation yet devised to cover the special requirements. He thought the author of the paper would still be liable to come across some cases which he would not be able to relieve—cases, for instance, in which the patient had not been seen for several months and in whom firm cicatricial adhesions had already taken place, and patients in whom the cicatrization was very high up in the post-naso-pharynx. He had only seen one instance of complete occlusion. A small opening would almost always be found to the right or left of the uvula, through which the nasal discharges could pass and by which the patient was able to get a small quantity of air. He believed these cases were always of syphilitic origin, and had seen very few tuberculous ulcerations of the pharynx. As a rule, there was but little vitality of the tissue in the tuberculous cases, and there would be hardly any attempt on the part of the tissues at cicatrization. If he found such tissue present he should unhesitatingly pronounce it a syphilitic manifestation and non-tuberculous.

A Report of Four Cases of Laryngeal Obstruction in the Adult treated by Intubation.—Dr. W. K. SIMPSON read a paper with this title. The introduction of intubation by O'Dwyer's method had inaugurated a new mode of treatment in those cases of non-membranous stenosis of the larynx needing dilatation, which bade fair to supplant all other treatments in vogue at the present day. The two great points to be attained in the treatment of these cases were (1) avoidance of tracheotomy or laryngotomy, and (2) to secure a continuous intralaryngeal pressure by retention of the tube for a sufficient length of time. The importance of avoiding extralaryngeal operation could for many reasons be easily seen, and the advantages of constant pressure over the often-repeated daily attempts could be as readily appreciated. That both of these points had been obtained was proved by the reported cases of Dr. O'Dwyer in the New York Medical Journal of May 10, 1888. and by reference to the following cases:

Case I.—Lizzie S., aged twenty-six, married. The patient had first come under observation in April, 1888. The history had pointed to syphilis, but with no involvement of the larynx. The present trouble had dated back three months and a half. A hoarseness had come on at that time—a week after the patient had spent a night in the wet and cold. This had continued to grow worse until she was nearly voiceless. Four weeks later dyspnœa began, and went on rapidly to severe attacks of suffocation, which were worse at night and during exercise. This condition had been treated for asthma and bronchitis. Examination of the larynx showed it to be almost entirely occluded by a large, irregular, grayish, granulating mass, of a cauliflower appearance. The vocal cords were entirely hidden from view, but through its center there appeared to be a small pin-hole opening, through which respiration was carried on. The patient was placed on large doses of iodide of potassium without improvement. The attacks of dyspnœa became very severe and there was imminent danger of suffocation. After cocainizing the parts a medium-sized adult metal tube was introduced, followed by almost immediate relief. The patient now suffered no inconvenience whatever, and had drank water and milk freely. She was able to come three miles and a half on the third day to have the tube removed for a slight cough. On removal of the tube, the larynx had presented an entirely different appearance than when last seen. There were no remains of the mass save some small reddish granulations. The caliber of the larynx was practically normal. The absorption of the mass was no doubt due to the pressure of the tube. The patient had been kept under observation, and at the present time there was no return of any of the old troubles.

Case II.—Louise S., aged thirty-five, married. There was a family history of asthma, but the patient's general health was good. In April, 1888, the patient had begun to have cough followed by hoarseness, with dyspnœa on exertion, the general health failing. Physical examination revealed dullness over the right apex, front and back. Expiration high-pitched and prolonged. Examination of the larynx had shown the arytænoids to be clubbed. The arytæno-epiglottic folds were thickened. The ventricular bands were thickened and ulcerated at the posterior wall of the pharynx extending below the right cord. There was severe pain in the right side of the larynx shooting to the right ear. There was also a cicatrix at the junction of the hard and soft palate which had led to the belief that the case was probably syphilitic in nature, it having been previously supposed to be tubercular. The patient was at once placed on antisyphilitic treatment. The difficulty in breathing increased for the next two weeks until violent attacks of suffocation came on. Examination of the larynx had now revealed almost entire obstruction of its lumen, and it was with difficulty the various parts could be defined. Intubation was attempted with a medium-sized adult hard-rubber tube, but failed, a smaller-sized tube being finally introduced by using considerable force. The relief from the extreme suffocation was immediate. The introduction of the tube was followed by excessive coughing, which continued more or less during the whole time the tube was in place. The expectoration was copious and of a muco-purulent nature. The string was removed at the end of six hours. The tube was removed at the end of the sixth day. During the time it was *in situ* it was not on the whole well borne. It produced cough, irritation, and some pain, and great distress in any attempt at swallowing. This difficulty had to be gotten over by rectal enemata. Morphine was used to procure rest. Examination after removal of the tube had shown ample room for breathing, with nearly normal intralaryngeal contour. So long as the patient was kept under antispecific treatment there was no sign of return of the trouble, but, after having left off the medicine some time, a second intubation was necessary to relieve the urgent suffocative symptoms.

Case III.—Mrs. M., aged forty-five, November, 1889. The patient gave a specific history. Four years ago she had first complained of painful sore throat referable to the larynx. There had been difficult breathing for two years, increasing until the patient was afraid to lie down and go to sleep for fear of suffocation. Breathing while at rest was very stridulous. She had a characteristic croupy cough. Antispecific treatment had been fully carried out. Examination of the larynx had shown the lumen to be almost obliterated by a dense, indurated, and swollen mucous membrane of uniformly red color. The swelling had seemed to be mostly confined to the arytænoids and false cords. No subglottic view could be obtained. There was a small, soft, protruding mass seen to arise from the left ventricular cavity, having the appearance of fresh granulating tissue. Motion of the larynx was almost absent, and the voice was gone. This was another case where intubation was performed with difficulty; the smallest sized adult tube had to be resorted to. It was allowed to remain for eighteen days; during this time the patient was able to swallow fluids and semi-solid foods. Examination of the parts immediately after removal of the tube showed a considerable increase in the size of the caliber of the larynx. The parts were much more clearly defined, and there was fair motion of the cords. At the present time, two months and a half after intubation, examination had shown continued increase in the breathing space, the voice was fair, and she had no return of paroxysms of difficult breathing.

Case IV.—Mrs. G., aged twenty-six, November, 1889. The patient gave a history of severe attacks of dyspnœa which lasted from two to three days; during this period there was also cough and constant loss of voice. She had been deaf since childhood. The attack for which the speaker was called in to give relief had lasted for four days and nights, and the patient was in a comatose condition with stertorous breathing. She could be aroused somewhat, but would relapse at once into the same state as before. Morphine and atropine had been administered the night before to procure sleep, and this probably caused the coma. Atropine was at once given, the respirations becoming more frequent and the pupils reacting. The patient was almost pulseless and the general condition very bad. The tongue and mouth were very dry, due very likely to atropine and morphine. It was very difficult to get a laryngeal view. The mucous membrane was dry and slightly reddened, with some swelling of the false vocal cords—more on the right side; in addition, there was paralysis of the adductors of both cords. There was no motion of the larynx; the current of air produced only a flapping motion of the cords. Operation was deferred some hours until the patient had come out of the coma. A medium-sized tube was then introduced without difficulty, giving instant relief. About six hours after the introduction of the tube the patient had developed a sudden rise of temperature to 104° and respirations increased to 60, the pulse being still imperceptible. Examination of the chest posteriorly had revealed fine and coarse râles quite generally distributed. This condition had increased until the next day, when she had died.

Death was evidently caused in this case from heart failure in the course of beginning pneumonia. The retention of the bronchial secretions had no doubt caused this pneumonic complication. When the tube was removed after death the pharyngeal mucous membrane was found to be still very dry. The speaker believed that if this patient had been intubated earlier in the attack the result would have been very different. These four cases, though demanding relief to the same urgent symptoms, had demonstrated how different might be the cause of stenosis and how well it might be overcome by resorting to intubation.

Exhibition of New Intubation Instruments.—Dr. J. O'Dwyer exhibited a set of intubation tubes suitable for use in cases of acute laryngeal stenosis in the adult; also a set of ten tubes for cicatricial stenosis. One of the most serious accidents, he said, which had occurred during intubation was the pushing down of the mass of false membrane so that it lay and accumulated at the lower end of the tube. When this was not expectorated, intubation failed. He had tried a great number of instruments of different designs in his endeavor to get such a one perfected as would permit of the patient expectorating this mass. At last he had been successful in the use of a short tube of as large a caliber as could be inserted. In three cases its utility had been demonstrated, so far at least as getting rid of the membrane was concerned. In croup it was necessary to use small tubes in order to avoid irritation and ulceration of the larynx. It was the subglottic condition of the larynx which must be taken into consideration in determining the size of the tube to be used, and not the chink of the larynx. The speaker then exhibited some specimens illustrating the condition of subglottic stenosis in croup, going very minutely into the relative merits of the various forms of intubation instruments as applied to stenosis of the larynx. In the event of having to deal with a foreign body in the trachea he believed the short tubes of large lumen would enable patients to expel the body. It would do this by affording a caliber equal to that of the trachea and by protecting the larynx against impact of the foreign body, which resulted in the spasmodic closure of the outlet.

The question of the value of intubation for the relief of laryngeal stenosis arising from any cause was generally discussed, all those speakers who had personal experiences to record concurring in the opinion that the method must be regarded as of unquestionable utility.

NEW YORK CLINICAL SOCIETY.

Meeting of November 22, 1889.

The President, Dr. L. B. Bangs, in the Chair.

An Extra-uterine Cyst.—Dr. B. F. Curtis presented a tumor which he had removed that day. The patient was a married woman, twenty-four years of age, who had borne one child a year after her marriage, five years ago. Since then she had not been pregnant. Two months ago she had been taken with frequent and painful micturition, and, this condition growing worse, she had come to the hospital. Her uterus was found to be retroflexed and the presence of a very small cyst was detected on the left side. After entering the hospital the woman suffered from some tympanites, nausea, and considerable tenderness, which, however, had passed off to some extent, though she still had attacks at intervals. She had been supposed to be suffering from pyosalpinx. Laparotomy was deemed expedient and was afterward performed. The tumor, which was a small cyst, was found in Douglas's *cul-de-sac*, apparently within the Falloppian tube. It was of about the size of a hen's egg. It had an independent limiting membrane and was without any pedicle. As the cyst was being turned out it broke and a thin watery fluid was discharged. It would be seen that within the independent cyst-membrane there was a small mass that looked like an ovum, and that the cyst had apparently been surrounded by the upper part of the broad ligament and tube, which formed the capsule. The other Falloppian tube was bound down behind the uterus and no attempt was made to extract it.

The President inquired if there had been any symptoms of pregnancy.

Dr. Curtis replied that no such symptoms had been noticed. The uterus was large and retroflexed, but the patient had menstruated at the usual times. Extra-uterine pregnancy had not been suspected. Some changes might have existed in the breasts which had not been noticed. The patient had had gonorrhœal cystitis.

Dr. J. H. Emerson asked if there had been marked tenderness.

Dr. Curtis replied that there had been very marked tenderness, which had been more pronounced during the attacks of which he had spoken.

Dr. H. M. Biggs asked if it was thought that pregnancy would be likely to occur when specific inflammation of the vagina existed. It was generally considered that gonorrhœa in that form exerted a very marked influence in preventing pregnancy. No doubt this was true.

Dr. Curtis said that all there had been upon which to found a diagnosis of gonorrhœa in this case had been the patient's own account of it, the symptoms of which had been of seven months' duration. There was no question whatever about the cystitis, pus having been demonstrated in the urine. The omentum was found adherent to the pelvic surface of the bladder and to the posterior surface of the uterus, which might have disturbed the function of the former. He did not of course wish this case to be put on record as one of extra-uterine pregnancy, for there had been no microscopical examination as yet. It had evidently involved the whole Falloppian tube, for there had been no tube recognizable anywhere else. He had removed nearly the whole of the broad ligament.

The Chairman said it was quite true that vaginal gonorrhœa did interfere with fecundation, but upon what hypothesis to make a diagnosis of this tumor he did not know. It did not seem exactly like an extra-uterine gestation sac. [Subsequent microscopical examination revealed only blood-clot in the supposed ovum. Nothing characteristic was found in the thin limiting membrane. The ovary was expanded over the cyst.]

Suffocation as a Cause of Sudden Death.—Dr. Biggs read a paper on this subject.

Dr. R. Abbe narrated a personal experience in which he had undergone, to the point of insensibility, all the painful phenomena attending the accidental lodgment of a foreign body in the upper air-passages. He had also noticed that for a month afterward his larynx was so sensitive and the muscles of the throat were so disturbed that the latter were apt to play him false and cause choking. He recollected a report of the case of a gentleman who, while talking, bit off a piece from an envelope. This little piece of paper, large enough to cover the rima glottidis, was drawn into his throat with his breath, lay like a valve upon his vocal cords, and choked him to death.

Dr. W. Mendelson said that this question of suffocation as a cause of death had interested him a good deal. He thought that, in a certain number of cases, death resulted from inhibition of the heart by reflex action of the pneumogastric nerve. Any excessive excitation of the vagus might cause stoppage of the heart by inhibition. He thought this was the only way that these deaths could be explained. Evidences of suffocation were always found, because, though the heart had stopped, the center of inspiration was still active and attempts at inspiration were made. The sudden and lightning-like rapidity with which these patients died, especially children, in whom the larynx was more sensitive, had led him to the conclusion he had given.

Dr. Curtis asked whether apoplexy might not be brought on by these suffocative attacks. Eighteen months ago an old woman had come under his observation with a rapidly developing cancer of the inferior maxilla. It was found impossible to keep her mouth open, and equally impossible to attempt extirpation of the growth. He had put her under ether with the idea of dividing some constricting bands by means of Paquelin's cautery, and, if possible, give some freedom of movement to the mouth. She took the ether well at first, and then suddenly stopped breathing. Under the circumstances it was impossible to get her tongue forward, and so tracheotomy was performed immediately. Artificial respiration was resorted to, and, though breathing was restored, she never recovered consciousness, and died during the night. Unfortunately, no autopsy was obtainable, but it was the speaker's opinion that she had suffered some form of cerebral hæmorrhage during the attempts to restore breathing. There had appeared to be some paralysis, but the coma had been so profound that it had been difficult to ascertain its extent.

Dr. Biggs said that, with regard to those cases of death which were almost instantaneous, he agreed with Dr. Mendelson that they were due to reflex inhibition of the heart, and could be explained on no other hypothesis. Certainly suffocation could not cause death so suddenly. He had never seen a case of cerebral hæmorrhage as a concomitant of suffocation. Such hæmorrhage did not, as a rule, occur during violent effort. Ruptures of the aorta and of aortic aneurysms were prone to occur during intervals of quiet. He had seen so large a number of cases of death by suffocation from foreign bodies in the air-passages that he had become impressed with the fact that innumerable instances of death in this way occurred in which the cause was unrecognized.

Dr. Mendelson related the history of a case of death from a supposed foreign body in the larynx. A woman had awakened from sleep, had missed her false teeth, and had immediately come to the conclusion that she had swallowed them. Symptoms of distress and suffocation had come on. She started for the New York Hospital, and was picked up by the ambulance, partly insensible. After the history had been elicited and her condition been taken into consideration, preparations were made for immediate tracheotomy. Before this could be effected she died. Her false teeth were found in a fold of her dress.

Laparotomy for Appendicitis.—Dr. Frank Hartley presented two patients on whom he had performed this operation. In one of the cases there had been gangrenous inflammation of the vermiform appendix with diffuse septic peritonitis; in the other, suppurative inflammation of the appendix with circumscribed suppurative peritonitis.

The Chairman spoke of a case at present under his care. The patient was in excellent general condition, with the following history: He had served as a missionary in China, and, by reason of frequent attacks of sickness, had been sent home to recuperate. He had now been a year and a half under treatment by another physician, the conclusion being that he was suffering from some occlusion of the bile ducts. He was subject to attacks of violent colic, with scalding anal discharges. When about ten years of age he had had an attack of inflammation of the bowels, followed by another three years later. Ever since then he had been subject to attacks of pain, which he located about the umbilicus. Sometimes the pain was referred to the right side. After seven years' residence in China the attacks had become more frequent. Having obtained this history, the speaker had proceeded to examine the patient. A tender point, about two inches to the inner side of the anterior superior spine of the ilium, could be distinctly elicited by deep pressure. Here was a case the symptoms of which had persisted for twenty-three years. There was no jaundice, and evidently no lesion of the liver, gall-bladder, or bile-ducts. He felt convinced that it was a case of relapsing appendicitis. He would like to know if any member had had any experience as to the duration of such cases.

Dr. Hartley said that he knew of one case that had existed for seven years. There had never been any symptoms of abscess. Just before the speaker had operated on him the patient had suffered three attacks of pain in one month. On cutting down upon the intestines, they were found to be considerably matted together by fibrous adhesions. The appendix was found below the cæcum and slightly behind it. The organ was pyriform in shape, with a constriction at its cæcal end. It contained concretions and fluid. It was removed and the case treated in the usual way. The man had made a good recovery, and had never had an attack since.

Miscellany.

The late Dr. Charles S. Wood.—At a recent meeting of the Society of Medical Jurisprudence and State Medicine, the chairman of a committee appointed for the purpose, Dr. N. E. Brill (the other members being Dr. E. C. Spitzka and Dr. A. M. Jacobus), read a report in which, after announcing Dr. Wood's death, he proceeded as follows:

"To those of you who remember the early history of this organization, the causes which led to its foundation, and who recognized its early struggles for success, it is needless to mention the deceased as one of those energetic men to whom that success is in a great measure due. . . . Although he persistently refused all offers of office, he took a keen interest in all matters relating to the society's good and was a worker in the administration of its affairs. Had he lived longer he would have been compelled by his friends to accept the highest office which it is in the power of this society to bestow. Not only was his voice heard on all questions of policy, but he was ever prepared to speak on the scientific subjects which were brought before us. We all remember his modulated, melodious voice, harmonizing so well with his gentleness of character, and shall miss his ready argument and quiet humor. Our loss can not be replaced, and, though forgetfulness is ever the attendant of those busy with their own aim in life, Dr. Wood will ever live in the remembrance of those, however occupied, who called him colleague and friend. Dr. Wood was born in Litchfield, Conn., on the 27th of February, 1825. After having taught school for a time, he was graduated from the Jefferson Medical College of Philadelphia as a doctor of medicine. He entered upon the practice of his profession in Green, Chenango County, N. Y. When the war broke out he offered his services to the Union, and was commissioned as assistant surgeon in the Sixty-sixth New York Regiment, and afterward as assistant surgeon, U. S. Volunteers. After having served in all the battles of the Potomac until the time when Grant took command, he was transferred to the staff of General Wright, and proceeded to San Francisco. The general hospital at the Presidio at that place was under his charge, and at the end of the war he was ordered to Alcatraz Island, in San Francisco Bay. Soon after this he returned to New York (1867), and has made his residence here ever since. Such, in brief, was the life history of the man who was one of the most earnest of our society. Conservative and yet ever ready to adopt reasonable innovations, he could not be moved from the path which reason and personal experience told him to be right. He was made of so firm a mold that one could ever rely upon his taking the side of truth and justice, even when every other interest was opposed. In him we have lost so firm a support that our expression of condolence to his family is but an insufficient tribute to his worth, and the following resolutions—which I hope the society will take the necessary steps to adopt, to have spread on the minutes, and to have transmitted to the deceased member's family—are inadequate utterances of our loss. No more will his genial face be seen in our midst; of him we have but the memory, yet his work will live.

"Be it, by the Society of Medical Jurisprudence and State Medicine,

"*Resolved*, That, in the death of C. S. Wood, M. D., this society has sustained a loss whose weight falls heavily upon us—a loss which never can be replaced. Be it

"*Resolved*, That this society recognize the probity and purity of the deceased, who was ever watchful of our affairs, who aided us with his judgment, and taught us from his wide experiences. Be it

"*Resolved*, That the science of medical jurisprudence is deprived by the death of Dr. C. S. Wood of one of its ablest votaries and brightest lights, of a man of eminent abilities and stern integrity."

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 25th inst., there will be an exhibition of clinical cases and new instruments; Dr. Wendel C. Phillips will exhibit a case of Large Turbinated Growth, complicated with Cleft Palate; and Dr. J. M. W. Kitchen will read a paper on the Causation of Diseased Conditions in the Larger Respiratory Passages.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 27th inst., there will be a presentation of specimens and instruments; Dr. A. H. Goelet will read a paper on the Treatment of Hæmatocele and Hæmatoma by Galvanism; and Dr. Henry C. Coe one on the subject, How soon after Delivery does the Responsibility of the Accoucheur cease?

Aerial Embolism.—At a meeting of the Philadelphia County Medical Society, held on January 22d, Dr. H. A. Hare read a paper based on experiments that seemed to show the fallacy of the general belief in the dangerousness of the entrance of air into the blood-vessels. In the discussion the president, Dr. W. W. Keen, said:

"The chairman of the Board of Directors wrote to a number of prominent surgeons asking them to take part in this discussion, but I think, without exception, they replied that they had had no experience with this accident. It has never happened to me to wound a large vein and observe any symptoms which would lead me to think that air had entered a vein. There are, however, a number of statements as to this matter which we must take as the statements of careful observers and operators. We must also bear in mind the important paper of Senn, of Milwaukee, presented at the meeting of the American Surgical Association in 1885. His conclusions are somewhat at variance with the experiments of Dr. Hare. I have always supposed, and taught in my surgical lectures, that the entrance of air into veins was a danger, and have explained it in this way: The air entering the vein and passing to the small vessels of the lungs, is churned into a froth; the little bubbles thus formed constitute aerial emboli, which have a considerable amount of adhesion to the blood-vessel walls. We can understand this by an ordinary observation on a summer's day. If we have a glass of cool water, we know that small bubbles of air accumulate at the sides of the glass in consequence of the heat, and these are often dislodged with some difficulty. I can therefore easily conceive how, in a blood-vessel of very small caliber, the bubble of air would form an aerial embolus which, adhering by its entire periphery, would not be displaced even by the two hundred millimetres of blood-pressure. Several surgeons have had cases in which, as a fact, sudden death has occurred with a lapping or gurgling sound, apparently from the entrance of air, the patient rapidly becoming asphyxiated, and at the post-mortem there has been found frothy blood in the heart and pulmonary capillaries. It is hard to maintain that the entrance of air is not dangerous in the face of such observed facts. On the other hand, one is staggered when he sees twenty and forty cubic centimetres of air injected directly into the veins of a small dog, and he can not conceive how this will have a different effect in different animals, except in so far as the blood-pressure is different."

The Health of Connecticut.—According to the State Board of Health's Monthly Bulletin, the total number of deaths reported from 165 towns during the month of January was 1,648, including 38 from influenza, 3 from small-pox, 1 from measles, 9 from scarlet fever, 10 from cerebro-spinal meningitis, 67 from diphtheria and croup, 18 from whooping-cough, 26 from typhoid fever, 8 from malarial fever, and 3 from erysipelas. There were also 199 deaths from consumption, 896 from pneumonia, and 97 from bronchitis.

ANSWERS TO CORRESPONDENTS.

No. 307.—While the gonococcus is very generally recognized as being the pathogenic principle of gonorrhœa, there are still many eminent authorities who deny that such is the case. Bumm, a firm believer that the gonococcus is the ætiological factor in gonorrhœa, has demonstrated many varieties of diplococci which are morphologically identical with the gonococci in every respect. It is only by inference that these organisms are thought to be within the cell, and at first Neisser himself believed that such was not the case. Therefore, however valuable the gonococcus may be in the diagnosis of gonorrhœa in ordinary cases, we are as yet in no position to make positive statements in regard to either its identity or its pathological relations to gonorrhœa.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

DOES ETHER ANÆSTHESIA INJURIOUSLY AFFECT THE KIDNEYS?[*]

By ROBERT F. WEIR, M. D.,
SURGEON TO THE NEW YORK HOSPITAL, ETC.

A very imperfect attempt is herein made to determine whether the inhalation of ether as an anæsthetic has any injurious effect upon the kidneys or not. It has for a number of years, in America at least, been accepted that it does occasionally have such an injurious effect, and it may be said by many that the question now raised is already fully settled. But, in an experience of surgical cases now running over a number of years, I have been as yet unable to satisfy myself that such a risk belongs to this anæsthetic. It is known to all of us that in 1872 Dr. T. A. Emmet,[†] of this city, in a paper on Chronic Cystitis in the Female, brought forward for the second time his views on this subject, and stated them in these words, when speaking of the operation of cystotomy, that "to the effects of the anæsthetic I attribute the chief danger attending the operation in the advanced stages of the disease, while, on account of the irritability of the bladder, its use is indispensable. As the kidneys are barely able to perform their function sufficiently well to preserve life, the balance is easily lost in the attempt at elimination, and death from uræmia rapidly takes place."

In 1875 Dr. William Hunt, of Philadelphia, in the Medical Times[‡] of that city, reported an amputation of the arm for a crushed forearm where, before etherization had advanced beyond a few inhalations, symptoms of heart failure began to show themselves, and the amputation was finally accomplished without any anæsthetic. The patient became feverish and delirious in a few days, and died, without any urinary examination, some two weeks after the injury, from what was called surgical fever. At the autopsy the kidneys were found in a state of acute fatty degeneration. Dr. Hunt puts the query, May not conditions of this kind often explain the unpleasant and fatal action of an anæsthetic? Later surgical pathology would judge the cause to be the septicæmia rather than the ether.

In 1881 Dr. Norris, an oculist of note, presented to the American Ophthalmological Association, at its annual meeting, notes of two cases of death following cataract operations where in each instance intense congestion with parenchymatous and fatty degeneration was found. In one case, and this seems to me to be the most cogent one I have been able to find in my researches, a convulsion came on two hours after the operation, and the child died comatose two hours later. In his second case the ether can hardly be admitted as a cause of death. The patient was an elderly woman, and during the day following the operation the urine diminished in quantity and became loaded with urates. Not until the seventeenth day was any albumin found, and then with fatty and granular casts. The patient died the following day.

Without quoting all the cases—and they are not after all many—which have been published to illustrate the evil effects of ether on the kidneys, one must, however, allude to the paper written by the late Dr. Wesley M. Carpenter[*] in 1886 on this subject.

Two post-mortem examinations were made by him on patients on whom operations had been performed—one for a recto-vaginal fistula, and in the other case the nature of the surgical procedure is not stated, except that two weeks previously a similar operation, under ether, had been performed on the same patient without any bad effects. In each case extensive kidney lesions were found, but in the first case the brain was apparently not examined, the patient having died upon the table just before the operation was completed. This renders this case, in my judgment, of but little value. In the second case—where death resulted eight hours after the operation, the patient going to the water-closet subsequently and breathing stertorously—there was, besides the kidney lesion, marked mitral valvular disease of the heart, with decided atrophy of the right ventricle, to which the reporter himself thinks the fatal nature of the case can be partially ascribed.

It may be stated at this period—and in this, I think, surgeons will agree—that the cases cited by Dr. Emmet can also be properly excluded, as it is well known that any operative procedure, with or without an anæsthetic, upon the genito-urinary tract is apt to be followed, from septic or neural influences, by renal complications. An objection can also be raised against the renal cases reported as occurring after laparotomy, because it has been fully established, by the researches of Englisch and others, that such traumatisms are prone, through the influence upon the solar plexus, to beget albuminuria.

Resuming the line of evidence, it may be mentioned that Dr. H. B. Millard,[†] in 1887, presented a clearly detailed case wherein a patient with normal kidneys underwent an operation for curetting the uterus under ether, and no untoward results followed. A year later, in the same patient, she having had some previous evidences of slight catarrhal nephritis, curetting of the uterus, under ether, was again resorted to, with collapse coming on twenty-one hours after this operation. The urine then became scanty, and it was found to be highly albuminous, and a condition of acute hæmorrhagic nephritis was recognized, hyaline, granular, and blood casts being passed in abundance. The temperature of the patient is, however, not given in the narration of the case. I lay some stress upon the absence of this symptom, as I am inclined to believe that the renal risks that happen from time to time to a patient undergoing an operation come not so much from the anæsthetic as from the septic processes which so often are encountered even in a well-carried-out antiseptic operation.

An additional reference, before passing to the opposite side of the question, should be made to the article of Dr. Gerster read before the New York Academy of Medicine in 1887, where it is distinctly stated that ether as an anæsthetic should not be used in cases of even suspected acute or chronic nephritis, and that ether is contra-indicated in all affections that impair the integrity of the renal function.

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[*] Read before the New York Surgical Society, January 8, 1890.

[†] Trans. State Med. Society, New York, 1872.

[‡] January 9, 1875.

[*] Medical Record, February 6, 1886.

[†] *Ibid.*, January 29, 1887.

On the other side of the question, in an elaborate paper, Klinische und experimentelle Beobachtungen über die Aethernarkose, published in 1888 in the Deutsche Zeitschrift für Chirurgie,* Dr. Feuter, of Berne, reports some hundred and fifty clinical and thirteen experimental observations on ether narcosis in which he speaks of this "warning," which he calls the American one, of the danger that comes to the kidneys from the use of this drug as an anæsthetic. To convince himself of the correctness of these statements, he conducted a series of observations on patients and on animals. On six dogs, whose urine by testing was proved to be free from abnormity, he made thirteen etherizations, and four of them were eventually so far pushed as to purposely produce death. In none of these instances, though the etherization was kept up for from an hour and a half to three hours, was the slightest trace of albumin found in the urine after the anæsthesia. In four cases of operations upon human beings albuminuria existed beforehand, and in none of them was there any increase of the same produced by the inhalation of the ether. In one of these, it may be remarked, no wound was produced by the surgeon, being an examination for diagnostic purposes; the second case was an exsection of the hip; a third, a five-months-old child with abundant albuminuria, due probably to previous scarlet fever, in whom, up to within three days of the operation (cauterization for multiple angeioma), albumin was present. On the day of the operation and for three days following it there were no traces of albumin to be found. The fourth case is strikingly important. In spite of existing albuminuria and thrice-repeated etherization in a tubercular patient, no augmentation of the albumin occurred and no unpleasant symptoms developed. Post-mortem at a much later period showed tubercular deposits in the kidney and amyloid changes. Feuter states that he has never observed any increase in albumin or other symptoms which would lead him to suspect any advance in the kidney lesion, either during or immediately after an etherization.

His conclusions, based upon his experiments on animals and upon one hundred and fifty cases wherein ether was given, the time noted, and the amount consumed, were as follows:

1. That ether has no perceptible effect upon the healthy kidneys of animals, who, moreover, are more susceptible than mankind to its influences.

2. That it is not dangerous in persons whose kidneys are slightly diseased.

3. That subsequent disturbances of circulation in the kidney, when met with, are very transitory and rapidly disappear.

4. That the presence of abnormal urinary ingredients is not a positive counter-indication for the use of ether.

It has seemed to me, in reviewing the testimony that has been given in my investigation of this subject, that the influence of the anæsthetic has been clouded by the admixture of the influence of the operation itself. All surgeons must admit that patients with known kidney disease *are* liable to do badly through aggravation of their kidney difficulties after operation. It is also known that many patients supposed, by testing the urine previous to an operation, to have sound kidneys have been found after an operation to have albumin, casts, blood-corpuscles, etc., in the urine; sometimes associated with renal symptoms of gravity and sometimes without any special symptoms of importance.

But is it not possible to explain the development of important symptoms in those who not only have evidences of disease prior to an operation, but also in those who have no evidence whatever of renal disease prior to operation, by the presence of a septic process—surgical fever or septicæmia, as you prefer—originating in the wound? In other words, how little of a septic process is necessary to choke up the kidney? Of course, this must be much less for a kidney already damaged than for a kidney not previously affected. I have myself endeavored, in a collection of some forty cases carefully observed by my house surgeon, Dr. W. S. Coley, to make some solution of the problems that arose in my mind in connection with this subject, but, unluckily, the particular kind of cases that I required for a definite settlement have been comparatively too few to arrive at a positive conclusion. I wanted first to present a series of cases where ether had been resorted to in a subject with healthy kidneys for diagnostic purposes only, and thus to test, in a discriminating way, its influence upon these organs. Such instances are to be met with in, for example, the use of an anæsthetic in a simple fracture. I have only been able to report one case of this kind. The patient was a burly man of over two hundred pounds' weight, with a bad Pott's fracture of the leg and with healthy kidneys. No change was produced in their secretion by the administration of an anæsthetic of nearly an hour's duration.

In thirty-four cases where albumin was not found prior to the performance of an operation which excluded the abdominal or genito-urinary regions, in nine there was, after the operation, a trace of albumin to be found which was of a transitory nature, and in twenty-five there was no change whatever, chemically or microscopically, in the urinary secretion. To illustrate the influence of an abdominal operation, the case of a gastro-enterostomy, done for simple pyloric stenosis, can be cited where, prior to the operation, no albumin or sugar had been found on repeated examinations, but within forty-eight hours after the operation one half of one per cent. of albumin and sugar to the amount of four per cent. were found in the urine, with granular and epithelial casts. These all disappeared within forty-eight hours thereafter. The explanation was probably that the hand, in searching for the portion of the jejunum to be attached to the stomach, encountered and recognized the pancreas, and subsequently the left kidney, which was palpated to a moderate degree as a landmark. This, or possibly some contact with the region of the solar plexus, would readily explain this transitory albumin and sugar.

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* Band 29, Hft. 1.

In further analyzing my cases, I find that in five patients evidences of a diseased kidney existed prior to the operation, but the albumin was not increased afterward in three of these, but was increased to a slight extent in two, without the development of unpleasant symptoms. In four of the patients, in whom no albumin existed prior to the operation * and in whom it was found in small amount after the operation, there was associated with this symptom a few blood cells, renal epithelium, a few hyaline casts, and an occasional leucocyte. These were also of but short duration.

It may be interesting to note, also, that of the total number of cases there were twenty in whom prior to the operation no sugar existed in the urine, but in whom, after etherization had been accomplished, a slight trace of this was recognized by the test of thymol, Fehling's test revealing its existence in but a few instances. This, I venture to remark, is of some importance in supporting the view that I have dared to present—that albumin, when it occurs in the urine, is due to the operative procedures rather than to the anæsthetic effects, because the admirable paper of Redard (De la glycosurie éphémère dans les affections chirurgicales) † has shown that such a condition is to be expected when inflammation and suppuration take place, and is thought by him to be due to the influence of septic products on the liver. In one case of a suppurating hæmatocele sugar was detected prior to the incision, but it disappeared the next day. The acknowledged usefulness of ether as well as of chloroform in puerperal eclampsia with choked kidneys is also a strong argument against the charge of this anæsthetic directly damaging the kidneys.

The whole outcome of this limited series of observations is not to belittle the risks that patients with much damaged kidneys run in the course of an operation, but rather to direct more clearly our attention to efforts to neutralize these dangers. While I myself do not know of any efficient means of preparing a damaged kidney to undertake the greater work that may be thrown upon it by a febrile action in the system, yet in such instances I do take greater care to avoid the influences of exposure and cold, and am more particular to direct that ether should be so given as to avoid the venous congestions that are so frequently observed during the careless administration of this anæsthetic. I am unwilling in these cases to prolong the abstention from fluids, and, when so forced to do under the irritation of the stomach, resort early and often to large hot-water injections into the rectum, and, above all—and this has been the aim of this discursive paper—I feel that attention should be stringently directed to the most careful carrying out of the antiseptic treatment. And in many instances of this class of patients, rather than run the risk that often occurs from defective drainage (and I believe that drainage is more often carried out by the outside of a tube than by its quickly choked-up lumen and is therefore many times imperfectly carried out), I prefer to let such wounds be packed with an antiseptic gauze and allowed, where possible, to heal up from the bottom.

In the few instances that I can recall of marked renal complications following the administration of ether, the operation has been performed in portions of the body where sepsis is most likely to occur and where it is most difficult to guard against it—to wit, about the rectum and the mouth.

ON NEUROKERATIN.

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(*Concluded from page 204.*)

Microscopic Detection of Neurokeratin in Nerve Fibers.—The following description is intended to serve principally as a guide to the detection of this peculiar insoluble portion of the nerve fiber which remains after all else has been dissolved away, rather than as a statement of the natural form and arrangement of neurokeratin in the living fiber.

Neurokeratin was first described as having the form of a double sheath, of which the outer one surrounds the medulla of the nerve under the sheath of Schwann, while the inner incloses the axis cylinder, both being joined together by means of a peculiar knotty structure. It was not assumed that the knotty forms corresponded exactly with those pre-existent in life, but it was plainly stated * that the prolongations of the outer horny sheath extend to the inner, under certain circumstances, in the shape of the well-known spindle and funnel forms of the medullary sheath. When nerves are treated with alcohol, from the condition of things normally present in the medullary space, their appearance counts for little, since the naturally thick axis cylinder of the fiber shrivels and the small medullary mantle or sheath becomes thicker, through the action of the alcohol. Further, bridge-like connections must extend between these two horny sheaths, and these might thereby be broken. Obviously, therefore, for the first step in the treatment of the fiber, only those reagents can be employed which will retain the natural volume of the axis-cylinder—as, for example, osmic acid, which, however, we have not as yet used in conjunction with the treatment by digestion and extraction of the myeline bodies. Suggestions have indeed been made as to the actual way in which the keratin network is formed and the manner of its arrangement, but they relate to microscopical forms from which neither the myeline bodies nor the digestible matter of the nerve were completely extracted. We refer to the so-called neurokeratin funnel and spiral forms described by several Italian observers, and to the well-known appearance of transverse sections of the medulla in osmic-acid preparations of nerves. These, recently observed by Joseph, but not wholly comprehended in their complexity, were long known to us as beautiful, untinted figures, which make their appearance in transverse sections of mammalian nerves, within the stained (by osmic acid) mantle of the medulla.

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* One of these was for mastoid abscess, one for osteotomy, one for varicocele, and one for fistula in ano.

† Revue de chirurgie, 1886, pp. 639, 724.

* Verhandl. d. naturhist. med. Vereins zu Heidelberg, N. F., Band I, p. 461.

The preparations were most advantageously obtained by extraction of the myeline substance and digestion of the teased nerve on a glass slide. For this purpose it is of some importance what kind of animal the nerves are taken from. In the nerves of the frog, and in those from fishes likewise, certain differences are to be observed, so that the following description, except when otherwise specially stated, refers solely to mammalian nerves, and particularly to those from rabbits, which appear best adapted for the purpose.

As in the preparation of neurokeratin in quantity, so in the microscopical preparation there are two methods of treatment, in one of which the extraction of the myeline substance precedes the digestion, while in the other the latter process is applied first. We think it best, however, to describe somewhat in detail both processes, since histologists appear to be divided into two groups concerning this question, the one maintaining that undigestible structures are to be found in nerve fibers only when the myeline bodies have been removed by alcohol *prior to digestion*, and that when the order of treatment is reversed such structures are not to be seen; the other group, on the contrary, contending that it is impossible to find such undigestible structures in nerve fibers under any circumstances whatever.

We will first call attention to the methods of treatment common to both processes, and to some of the precautions necessary to be taken.

1. *The complete extraction of the myeline substance*, the difficulties of which have already been dwelt upon, is not easily accomplished, even in microscopical preparations where longitudinal and transverse sections of the nerve are only 15 to 20 μ thick. We have indeed found it so difficult that we have been impressed by the lack of any statement to this effect in the many writings on this and kindred subjects, in which this circumstance must be of considerable importance. These residues of myeline bodies are found in the nerve fibers, either in the form of glistening, oval-shaped balls—which, from their size and distribution, might be taken for nuclei—or in the form of a symmetrical thickening of the keratin network, comparable to a layer of varnish, thus imparting to the structure more luster and rendering it more refractive. This residue of myeline matter is in all cases composed of cerebrin, which is not easily soluble even in boiling alcohol or benzol, but, on the contrary, dissolves out slowly, quickly separating from the fluid as it cools. It is necessary, therefore, after the preliminary treatment of the preparation with cold alcohol and ether, to boil it with both alcohol and benzol for five to ten minutes, at least three times, and to pour off the fluid each time while it is still hot, for the cerebrin shows a great tendency to separate and adhere to the particles of tissue, even when the fluid itself shows no sign of turbidity.

2. *The digestion* of the nerve fiber we have in some cases carried on in large glass dishes, while at other times we have used small test tubes 35 to 45 mm. long and 15 to 20 mm. wide, loosely corked and set in a metal framework in a warm chamber, the temperature of which ranged from 37° to 41° C. The tubes with their contents of 5 to 10 c. c. were shaken as often as practicable, taking care, however, that the sections or small pieces of nerve are not broken by too vigorous agitation. In fact, there should be a rotation of the contents of the tube rather than a shaking, thus preventing at the same time the preparations from coming in contact with the cork, to which they are inclined to adhere. As to the length of time necessary to continue the digestion, probably twenty-four hours in nearly all cases would be sufficient; we have, however, generally continued the process much beyond this length of time, usually for a week, and in some cases have even extended the time to seven weeks. More important, however, than the element of time is the condition of the digestive fluid and the frequency with which it is changed. Five different kinds of gastric juice, representing as many different methods of preparation, were used on the same object, one after the other: 1, two glycerin mixtures, the first composed of $\frac{1}{3}$, the second of $\frac{1}{5}$ pepsin-glycerin (prepared by us and known to be of maximum activity); 2, a hydrochloric-acid extract of the mucous membrane of a pig's stomach, prepared by self-digestion at 40° C; 3, same as 2, only prepared in the cold, both with $\frac{1}{10}$ mucous membrane; 4, same as 2, with $\frac{1}{20}$ mucous membrane. All of the mixtures contained 0·4 per cent. HCl. Each of these digestive fluids, when warm, dissolved raw fibrin almost instantaneously even when they were a month or more old. According to our experience, artificial gastric juice prepared like the above and preserved in loosely stoppered flasks in a cool place, with a trace of thymol added, remains good for an exceedingly long time without loss of digestive power. All of our experiments, however, have been duplicated with non-thymolized gastric juice preserved in the cold air of winter, the digestions themselves being carried on in a warm chamber, the air of which was kept strongly permeated with thymol. The trypsin solution was the same in all experiments; it always contained 0·5-per-cent. sodium carbonate, was repeatedly filtered from the separated tyrosin, saturated with thymol at the temperature of the room, and digested raw fibrin very noticeably in five minutes, completely in ten minutes. It was not so powerful in digestive action as it is possible to prepare such a fluid, but was far more active than was necessary for the purpose in view. At the end of each digestion a portion of the fluid was always tested with fibrin in order to be sure that its energy was unimpaired.

When the digestion of the object is completed it becomes in many cases a matter of some importance, owing to the small size of the preparation and its great tenderness, to transfer it properly to the glass slide for examination. This we have most successfully accomplished by placing the small test tube containing the object in a trough, filled with water, made of glass plates fused together, whereby the fine sediment is made more plainly visible on the curved bottom of the glass, whence it can be fished out with a suitable pipette. The same method can be advantageously used when it is necessary to extract the preparation with caustic soda or other reagents, or to wash it with water. The extraction of the preparation with caustic alkali for the removal of nuclein we have invariably performed, although it does not alter the microscopical appearance of the object, since the nuclein in these cases comes entirely from the residues of the nuclei. As a preserving medium we have employed very dilute glycerin, first staining the more tender objects with Delafield's hæmatoxylin.

I. *Nerves digested after Extraction of the Myeline Substance.*—The nerves are first stretched out by means of threads in small glass tubes, or else fastened upon corks and then hardened in cold alcohol. After twenty-four hours they are cut into small pieces from 1 to 3 cm. long, and then freed from myeline matter, as already explained, by boiling with alcohol and benzol and also with ether. From a mixture of alcohol and ether the pieces are transferred to a solution of celloidin of gradually increased strength. After the hardening of the celloidin in seventy-per-cent. alcohol the pieces are cut by means of the microtome into longitudinal and transverse sections 15 to 20 μ thick, which are then further extracted with the above reagents. While inclosed in the celloidin lamellæ the tissue can not be treated with digestive fluids to advantage, since the smallest quantity of this substance renders both gastric and pancreatic juice wholly inactive, which fact is to be attributed to the peculiarity possessed by nitrocellulose, discovered by Danilewsky,* of precipitating the digestive enzymes. We found that a few thin shavings of celloidin, washed simply with water and placed even in large quantities of the digestive fluid, freed it so completely from the enzyme that its digestive power was almost wholly impaired. In gastric juice it would appear at the first glance as if transverse sections of a nerve do really dissolve, for after a time it will be noticed that a fine hole appears in the celloidin lamella, where the nerve section is known to be. On close scrutiny, however, it will be found that the entire tissue still remains, but rendered more or less transparent on the edge by the swelling of the connective tissue in the acid. That the gastric juice has really lost all of its digestive power can be easily shown by placing in it a piece of fibrin, which will be seen to swell up and become more or less transparent without, however, dissolving. The nerve sections must therefore be entirely freed from celloidin, and this operation serves likewise to remove all remaining traces of myeline matter. For this purpose the sections are treated for twenty-four hours with alcohol and ether and then again extracted with hot alcohol, benzol, etc., as previously described, after which they are freed from alcohol by washing with water and then subjected to digestion.

The digestion can be carried out in four different ways: 1, with gastric juice; 2, with pancreatic juice; 3, with pancreatic juice after the sections have been previously boiled with water; 4, with pancreatic juice after previous treatment with gastric juice or dilute hydrochloric acid. The third and fourth methods give the same results as the first, since from the preliminary treatment the connective tissue is rendered wholly soluble in the trypsin solution. The second method, on the contrary, preserves the collagenous fibers entire, together with the neurokeratin. An exception, however, is to be noticed in this connection in the nerves of the frog. As Aug. Ewald * has recently observed, the tendons of the frog, in distinction from those of the *Mammalia*, are decidedly altered by trypsin, and the same is true, though to a less extent, of the connective tissue contained in the nerves of the frog. After a long digestion with trypsin the nerve fibers are seen to fall almost entirely apart, and it apparently makes no difference whether the nerve is fresh or has been previously extracted with alcohol. In both cases the nerve, on treatment with warm trypsin solutions, softens and the fibers separate, while the collagenous fibers which bound them together, and which at first can be readily isolated, after a time disappear, and in their place is to be found some soft, slimy matter or a membranous mass, the latter coming from the thicker neurilemma. The usual difference, therefore, in the character of the residue left by a gastric and pancreatic digestion disappears in the case of the frog's nerves, a fact which has been of some advantage to us in our study of this matter, as will presently be seen.

In the mammalia this order of things is in a certain sense reversed, for here the connective tissue is so altered by the agents employed for the extraction of the myeline substances that it is not completely broken up by gastric juice, even after previous boiling with water, or by trypsin digestion when treated as described in 3 and 4. Herein lies the probable cause of the different results obtained in the quantitative determination of neurokeratin, both in nerves and in brain tissue, when the extraction of the myeline bodies precedes the digestion process instead of following it. Furthermore, this explains why microscopical preparations of neurokeratin are more readily obtained and in better condition from nerves which have been previously extracted with alcohol, etc., prior to digestion, since under such circumstances there remains after the latter process something which holds together the residue of the fibers.

At the same time such preparations of nerve fibers are seen to be free from any accompanying tissue of recognizable structure; that which lies between the fibers is hardly recognizable as a cementing substance, for it is only on the edges of the section that the almost homogeneous border of transparent matter can be detected, showing here much like an outer sheath, thick and transparent. Another constituent often noticed is broken residues of the red blood-corpuscles, which have been rendered indigestible by treatment with alcohol. They often occur in rows, corresponding to the digested blood-vessels, in between the residues of the nerve fibers. Of the nerve fibers themselves, many are completely dissolved, aside from the residues already mentioned, and these especially show what the arrangement of the neurokeratin in the fiber is. They are extremely friable, and are reduced to cylindrical, wrinkled strings or cords, in which can frequently be seen an inner string, like a wick in a candle, while surrounding the latter is a rumpled mass uniting it with the outer covering. We have treated hundreds of such sections, and in many cases have allowed them to lie for months in a large excess of thymolized gastric juice in small test tubes, and in no case have we failed to find the neurokeratin residue, and this both in large and small nerves alike. Further, in every case we have proved the great strength of the gastric juice employed by testing its action on fibrin which had been boiled in water and also treated with alcohol and ether.

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* Virchow's Archiv, xxxv, p. 279.

* Zeitschrift für Biologie, xxvi, p. 1.

Preparations which have been treated with trypsin, after the manner given under 2, are less changed than the preceding, and retain the natural form of the neurokeratin better, since in these all of the collagenous fibers, which hold the nerve fibers together, remain, and, furthermore, are not swollen as when treated with the acid gastric juice. In addition, the nerve fibers themselves are less deformed than when treated with acid fluids, since the swelling action of the acid on the connective-tissue fibers tends to shorten longitudinal sections of nerves, and hence twists and crumples the nerve fibers themselves. Generally the nerve fibers lie in straight rows, showing for long stretches an outer shell, together with an inner string of the shrunken horny sheath of the axis cylinder and the connecting structure. In many places, however, there may be found portions of fibers in which it is impossible to recognize the individual parts of the horny sheaths, where the fiber resembles a chain of crumpled fragments, owing to the complete solution of the contents of the sheaths and the elastic contraction of the neurokeratin, for, when all of the substance naturally filling up the space of the fiber is removed, no resistance is offered to the elasticity of the neurokeratin, and hence it falls together more or less as one mass.

If mammalian nerves are boiled with water or treated with acid, previous to subjecting them to the action of trypsin after the method under 3 and 4, they show the same appearance as when digested in gastric juice. Moreover, fibers which have been digested in gastric juice are not apparently further changed by after-treatment with pancreatic juice. There is, therefore, a certain residue or decomposition product of the mammalian connective tissue present in the nerves after extraction of the myeline substances, which resists the action of both digestive ferments.

II. *Nerves digested prior to Extraction of the Myeline Substances.*—The character of the residue remaining after this method of treatment has long been known, and from the very beginning much weight has been attached to its peculiarities. The process, however, like that employed in the preceding case, is not so easy but that considerable practice is necessary to avoid loss of the undigestible residue by its floating off from the glass slide, or to obtain good preparations from the brittle mass left at the completion of the process. Moreover, the conditions are not as favorable here for obtaining the horny matter in its natural form as where the digestion follows the alcohol treatment, for in the latter process the fluid portion of the medulla, especially that containing the albuminous matter, is first coagulated and hardened. Then, when the myeline bodies are removed, there remains a horny mass covered over or penetrated by the coagulated albumin and showing a form identical with the compact structure long ago described by Henle and Merkel,* which many later observers have held as congruent with neurokeratin, a mistake which Rumpf has already called attention to. However, this preliminary coagulation of the proteid matter has an advantage for the digestive process in that it helps to fix the neurokeratin, and, further, the coagulated albumin is only slowly softened by the digestive juice, so that for this reason it is possible to obtain the microscopic forms in much better condition than in the other method. In the direct digestion of fresh nerves, on the other hand, only soft matter fills out and surrounds the neurokeratin, from which the latter can find little or no support, so that in the rapid digestion and solution of the non-coagulated albumin the horny residues naturally fall together and appear extremely rumpled and twisted. On being digested with gastric juice, a very marked shortening and swelling occur in fresh nerves, the extent of which can be estimated from the corresponding overflow of the medulla from the mushroom-like end of each piece of nerve. When all of the albuminous matter has been rendered non-coagulable by digestion and the myeline bodies extracted from the nerve, it must not be expected that the residue will show more than a confused appearance, for it is only by the greatest care in the handling of the object under the cover-glass that it will be possible in some measure to arrange the parts for observation.

If fresh nerves are digested with gastric juice in small test tubes and the medullary substances then removed by the ordinary method, the residue will be decidedly broken and mixed, for when the cerebrin is dissolved out by boiling with alcohol and benzol, the pieces become by this treatment so brittle that on the boiling of the fluid they are broken apart—so much so indeed that they can not be taken hold of by forceps or needles, but can be caught only by decantation of the fluid and the use of wide pipettes. The residue thus obtained, however, always possesses the same characteristic properties, as any one can see who will take the necessary pains in manipulation—viz., insolubility in caustic soda, intense coloration with hæmatoxylin, non-digestibility in gastric and pancreatic juice, etc.

A far better method of obtaining neurokeratin for microscopic study, and one which yields the product in much better condition, consists in the following treatment: A piece of the sciatic nerve from a rabbit, 2 to 3 cm. long, and which has been digested for one to seven weeks in 100 c. c. of active gastric juice, is thoroughly washed with water, then placed in alcohol of gradually increased strength, then in ether, in alcohol-ether, and finally in celloidin of gradually increased concentration. In making these transfers from one fluid to another it is not necessary to use a pipette, which might possibly crush the brittle residue of the nerve, but it is better accomplished by careful pouring of the fluids, and, when necessary, by cautious slipping of the bit of tissue. The piece of nerve is then hardened with the celloidin in 70-per-cent. alcohol and cut into sections with the microtome. Longitudinal sections of the nerve 3 to 5 mm. long are best adapted for study. The celloidin sections are taken from the 70-per-cent. alcohol singly by means of pinchers and placed in absolute alcohol, where they are allowed to remain until they begin to soften on the edges. This may be considered as evidence that they are sufficiently dehydrated to be boiled in benzol, by means of which the remainder of the myeline bodies, especially the cerebrin, is completely dissolved without alteration of the celloidin. From the hot benzol the celloidin sections are placed in cold benzol, then again in absolute alcohol until they show a tendency to soften, then in dilute alcohol, finally in water and in glycerin, in the latter of which the preparation can be best examined. In this manner all breaking and crushing are avoided and a preparation is obtained which, while in great part composed of twisted and knotty masses, still shows many pieces which may be easily recognized as residues of nerve fibers, with the characteristic joining of the outer and inner horny sheaths and the spongy network of neurokeratin.

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* Zeitschr. f. rat. Med., xxxiv, p. 49, Table V, Figs. 20 and 21.

In order to exclude all doubt as to the completeness of the extraction of the myeline bodies, the celloidin, which still surrounds the residue from the nerve, can be completely removed. This is best accomplished, after the final washing with alcohol, by dropping upon the softened section placed on a hot glass slide boiling alcohol, and then washing the residue with ether, care being taken to avoid its floating away. Addition of 1 to-5-per-cent. caustic soda will then show the character of the insoluble substance. The best preparations are obviously obtained from regular longitudinal sections of nerves, while transverse and oblique sections are more apt to yield poorer and less satisfactory specimens.

For microscopists we would on some accounts recommend the pancreatic instead of gastric digestion, in which the collagenous fibers take the place of celloidin in preventing the entire collapse of the nerve fiber in the after-treatment with alcohol, benzol, etc., and in which, likewise, the volume and length of the fiber remain practically unaltered. Furthermore, mammalian nerves can remain in the warm trypsin solution as long as desired, and that too without agitation of the mixture. The pieces can then be washed in water, freed from myeline bodies, spread upon appropriate slides, and the fibers teased apart in the ordinary way. One would hardly expect to find, after this method of treatment and in such an intermingled mass of connective-tissue fibers, any nerve fibers showing so plainly the horny sheaths and the spongy network of neurokeratin as many of these do. The final treatment of the preparation with caustic soda occasionally causes difficulty, but this can as a rule be carried on so easily under a cover-glass that there is little danger to be apprehended.

There remains a single word to be added concerning the peculiar behavior of frog's nerves toward pancreatic juice. In the isolation of neurokeratin from such nerves by means of trypsin, doubtless many have obtained unsatisfactory results, since in this case the connective tissue disappears and the nerve fibers fall apart. On shaking or agitating such a preparation, after the myeline bodies have been removed, the greater part of the residue from the tissue will undoubtedly be broken and lost, although the splinters of neurokeratin still recognizable will not be deprived of their characteristic appearance nor fail to show their insolubility in caustic alkali. This difference in behavior toward trypsin is, however, of decided advantage, for it facilitates the penetration of the various solvents employed, and further yields the nerve fibers isolated in a manner fully equal to the result obtained by gastric digestion, but with the added advantage of their being far less deformed, since the slow decomposition of the connective tissue by trypsin is not accompanied by the swelling and shortening of the nerves produced by a pepsin-acid mixture. The thick medullated nerves from the head of certain fishes, such as the barbel, behave in a similar manner toward trypsin; they likewise yield an insoluble neurokeratin similar to the above, but in more delicate forms and often very beautifully arranged. We were somewhat surprised, however, on comparing the behavior of the epidermal cells from the skin of the head and from the fins of the barbel with those from mammalian epidermis and from the skin shed by frogs, to find that while the latter withstood the most vigorous and long-continued action of gastric juice, the epidermal cells from the fish were wholly decomposed by the same treatment, so that no trace of them could be found.

Heidelberg and New Haven, 1889.

THE INDICATIONS FOR OPERATION IN DISEASE OF THE UTERINE APPENDAGES.*

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Prior to the year 1882 the uterine appendages played but a minor rôle in gynæcology. Displacements of the uterus, inflammatory affections of this organ, inflammation of the pelvic cellular tissue—these were the topics which furnished chief food for discussion and toward the relief of which the gynæcologist brought the pessary, the intra-uterine applicator, the tampon, and hot douche to bear. Surgical gynæcology interested itself mainly in the removal of ovarian cystomata, in the opening of what were termed pelvic abscesses, in the device of plastic operations on the vaginal walls, in the repair of the lacerated cervix. Proof of these assertions is afforded by the most cursory survey of gynæcological literature prior to the year of which we are speaking. In the year 1882 reports began to reach this country of the wonderful operations being performed in Birmingham, England, by Mr. Lawson Tait, and pilgrimages were made to this Mecca to learn the doctrines and to witness the feats of this nineteenth-century Mohammed. About this time that honored and most conservative of American gynæcologists, Dr. Thomas Addis Emmet, presented specimens of tubes and ovaries obtained from Mr. Tait to the New York Obstetrical Society, and shortly thereafter isolated reports of laparotomies for the removal of the uterine appendages began to appear in the medical press, the number gradually increasing until we read the record of one hundred and over in the practice of single operators. As if by magic, the pessary, the applicator, the tampon, and the hot douche vanished into the background; pelvic abscess, aside from the puerperal state, ceased to exist; cellulitis as a disease factor was well-nigh strangled, pelvic pathology was revolutionized, and the cry became salpingitis and its sequela, peritonitis. Whereas, prior to 1882, persistent local treatment palliated—according to some, cured—circum-uterine inflammation, the teaching after this date gained ground that laparotomy, followed by the removal of the uterine appendages, in the vast majority of cases offered the sole hope of cure; and teaching of this nature, backed both by precept and example, dominated, with here and there a protest against it, until quite recently the laparotomy tide shows signs of arrest in face of the questions: "Do ultimate results always justify the laparotomy?" If not, "In what class of cases is laparotomy stringently indicated?" To the first of these questions we are all patiently awaiting the answer from those who, having acquired and being deserving of the title "laparotomist," can alone give it. The second of these questions it is my aim to endeavor to answer, in the belief that the time is more than ripe when a sharp line should be drawn between cases which can reasonably hope for cure or palliation only through laparotomy, and cases where honest, persistent, long-continued local and general treatment will result in ample palliation, if not in a *restitutio ad integrum*. My argument may fitly be prefaced by the statement that I do not pose as an opponent of laparotomy, that I do not impugn the honesty of purpose of those who have figured as successful operators during the past few years. I am simply convinced that there has been far too much miscellaneous operating, and that frequently we can save rather than mutilate. Lest any one take exception to this strong term "mutilate," let me define it as applicable to those instances, quite infrequent to-day, fortunately, where "slightly cystic ovaries," "slightly thickened tubes," and "tubes containing a little cloudy serum" are removed. No one knows the full influence of the tubes and ovaries upon woman; and in the light of data pointing to mania following laparotomy, and in view of the reflex nervous disturbances which are often the heirlooms of women operated upon, it is clear that it may be preferable not to remove organs which are apparently slightly diseased rather than by removal to render the woman's last condition worse than her first. She may have been practically unsexed through disease, but she is mutilated if extirpation of organs apparently diseased fully unsexes her and leads her to the border-land of insanity, if not actually over the brink.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

In weighing the indications for operation in case of disease of the uterine appendages we can gain absolutely no clew from a careful study of the vast statistical material at our disposal. Such data are often largely compiled from the material afforded by our general hospitals, the exigency of whose service renders it impossible to keep patients long enough to determine the value of routine methods of treatment in any given case. Extirpation of the appendages is, therefore, often resorted to by the hospital surgeon in instances where the strong probability is, were the patients from his private clientele, the non-surgical methods would be amply tested prior to advocacy of the knife. Under this assumption we may explain the fact that, whereas certain gentlemen have advocated and performed laparotomy for what they term "catarrhal salpinx" and "cystic ovary," other equally competent and conscientious observers maintain, and can substantiate the statement, that such conditions may usually be amply palliated by the routine non-surgical means. As regards statistics derived largely from private practice, while they are more reliable as a guide toward the formulating of exact indications, still they are far from conclusive, owing to the vague manner in which the clinical phenomena are often stated, and owing also to the frequently hasty and imperfect description of the specimens. Take, for example, the recent report of seventy-five cases of abdominal section by Dr. R. Curtis Miller, of Charleston, West Virginia. Scores of careful observers will testify to the fact that in many of the cases as reported by this gentleman more conservative measures than resort to the knife palliate the symptoms satisfactorily to the patient. To select at random, in one case the ovaries were cystic, the patient's chief symptom being dysmenorrhœa and pain in the ovarian region. In another case the ovaries were cystic and considerably enlarged, the tubes being in a catarrhal condition; the patient always suffered from more or less dysmenorrhœa and leucorrhœa and from constant uneasiness over the ovarian regions. In still another case both ovaries were enlarged and cystic; the patient suffered from intense pain in the back. In still another there was great suffering from dysmenorrhœa and the ovaries were enlarged and very sensitive to the touch. Similar instances might readily be multiplied, and this gentleman's record is only referred to because it is the most recent. Obviously, dysmenorrhœa and pain in the back are not indications for extirpation of the appendages, and the description of the removed appendages does not reveal any condition not amenable to prolonged non-operative treatment. Of course the fact is apparent that none of these specimens, if left in the abdomen, would in the slightest have endangered life, and, although the patients all recovered, it must be frankly owned that this recovery from the operation was purchased at the risk of life, and also at the risk of not being ultimately cured, for there are patients who, notwithstanding extirpation of the appendages, are not bettered, and sometimes are even worse off—a glaring proof, if one were needed, of our absolute ignorance of the sum total of the influence which even slightly cystic ovaries may exert on the nervous centers of the woman. It seems, indeed, that some women are better off with such ovaries than without them, and it is a fact, admitted by all pathologists, that as yet the boundary line can not be strictly drawn between the sound and the unsound ovary.

Statistical data being fallible, then, as a guide toward formulating the indications for laparotomy for the removal of the appendages, we must needs place reliance on symptomatology, both the rational and the physical. And just here the difficulty arises that the rational history is exceedingly variable. We have all examined women whose complaints were pitiable in the extreme, and yet have detected but slight disease, if any, of the sexual organs. On the other hand, though more infrequently, we find aggravated disease associated with slight symptoms. In the one case the neurotic element, as it is convenient to term it, predominates in the woman; in the other it is, as it were, torpid. Again, the social condition and the occupation of the patient alter the symptomatology, and consequently the indication to be drawn therefrom. These facts are too patent to require argument. From the standpoint assumed in this paper the chief question to be answered clinically before advocating the extirpation of these appendages is: Are these appendages diseased to such a degree that the patient risks, possibly, prolonged invalidism, possibly life, if they be not removed? I do not take the argument as worthy of serious consideration that the appendages are sufficiently diseased to render them useless. No man can say in the average case that the appendages are useless, for instances are numerous where women with cystic ovaries, with catarrhal salpinx, with indurations in the pelvic vault, with *probable* pyosalpinx, have, after non-operative treatment, conceived. If our past experience teaches us that the progress of a given disease is toward a fatal issue, or, if not so far as this, at least incurable by non-operative methods, then it is irrational to withhold the knife, even though there be a chance of the knife not curing, and a slight chance of mania following the operation. In such cases the average patient will be willing to face possible future ill, for if she refuses operation she can not look forward to anything else. Given an instance, however, where my leading question can not be answered affirmatively, and then, except where the social condition renders it utterly impracticable for the patient to submit to protracted routine treatment, laparotomy is not at all stringently indicated. Routine measures of treatment—hot douche, the gentle tamponade, counter-irritation, galvanism, faradism, regulation of the bowels, tonics, abstinence from factors which directly congest the pelvic organs—these measures will palliate amply the symptoms, even if they do not effect an anatomical cure. Such has been, and is still, the experience of the writer, and his experience, he has cause to know, is very far from unique.

While ovarian and tubal disease are often associated, the one may occur without the other, and we will therefore sketch briefly the indications, as they appear to the writer, first, in case of the ovary, and secondly, in case of the tube. It is evident, of course, that, owing to the uselessness of one of these appendages without the other, where the indications favor the removal of the one, nothing can be gained by leaving the other. It has already been stated that it is impossible as yet to define strictly the boundary line between the healthy and the diseased ovary. If the pathologist can not do this, the clinician, obviously, is at a still greater disadvantage. Given a prolapsed, markedly enlarged, congested ovary, with reflex symptoms clearly traceable to it, on what grounds can we base our decision in favor of laparotomy? The case is not complicated by circum-uterine inflammation. The therapeutic aim is simply to lessen the congestion of this ovary, to maintain it in a fairly normal position. In the vast majority of instances it is the experience of the writer that the bearer of such an ovary need not be laparotomized. Resort to the self-suggesting means of lessening congestion (inclusive of galvanism), followed by one or another of the pessaries devised for maintaining the prolapsed organ at a slightly higher level in the pelvis, will effectively relieve the patient of her symptoms, even though restoration of the ovary to its normal size be not obtained. This is a simple case, however, but it leads naturally to a higher grade of ovarian disease—the true tumor of the ovary—whether cyst or solid tumor. Given an instance of this nature—that is to say, a fluctuating tumor of the ovary or a solid, possibly malignant or dermoid growth—and the indications at once alter. Careful observation of the case, where the symptoms are not urgent, will reveal progressive increase in the size of the tumor. Examination under an anæsthetic, in obscure cases, will tell the trained diagnostician that he is dealing with something more than simple hyperæmia of the ovary, and will, if the tumor is a cyst, reveal the fairly uniform fluctuation which is the characteristic of tumors containing fluid. If the tumor is accompanied by much pain, the inference that the case is one of dermoid or of a malignant nature will be warrantable. If circum-uterine exudation complicates, then abscess of the ovary or associated tubal disease will suggest itself. In instances like these there can be no question of the proper course to pursue. The tendency of such growths is toward increase in size. The larger the tumor the greater the difficulty of an operation. Given, then, an established diagnosis of ovarian cyst, or dermoid, or fibroid, or abscess of the ovary, or malignant disease, and speedy extirpation is the justifiable rule of practice. As regards what has been termed cirrhosis of the ovary—where the ovaries are small and indurated, and the symptoms are hystero-neurotic—the belief of the writer is that, in the vast majority of cases, the cerebro-spinal and sympathetic systems are at fault fully as much if not more than the ovaries, and that, therefore, extirpation of these organs is not indicated except as a *dernier ressort*, and then empirically and tentatively.

To pass now to the tubes, the question propounded is much more difficult to answer. Rarely do we find uncomplicated disease of these organs. Very frequently an associated factor is circum-uterine exudation, which necessarily interferes with careful examination, and therefore with exact diagnosis. Fortunately, however, the ætiological factors of tubal disease are fairly well established, and these factors, carefully weighed with the symptomatology, will not infrequently assist us in laying down the indications in a given case.

Clinically, we may ordinarily distinguish the following diseases of the tube: Catarrhal salpingitis, hydrosalpingitis, and pyosalpingitis. The further varieties, mentioned in particular by German writers, must, as a rule, be considered, from a clinical standpoint, theoretical.

Simple catarrh of the tubes, uncomplicated, as usually it is, by circum-uterine exudation, rarely, if ever, demands laparotomy. Cure of the affection may not be obtained through resort to non-operative measures, but the symptoms may be amply palliated without the knife, which may not cure and which does risk a life not at all endangered by the existing disease. We all know how difficult it is to cure catarrhal affections in other parts of the body, and no wonder, therefore, if we can not speak of cure in case of catarrh of the tubes, the mucous membrane of which is inaccessible to direct therapeusis. But if we can effect a symptomatic cure of an affection which as regards life is benign, what right have we to subject our patient to an operation which has a mortality percentage and which at best only adds an anatomical cure to the symptomatic? It is further to be remembered, especially in connection with these cases, that the necessary traumatism accompanying every laparotomy may lead to circum-uterine exudation, to adhesions so called, and this may eventually prove a greater source of discomfort to the patient than the catarrhal tubes were. An argument which may here be advanced is that the catarrhal form of salpingitis often merges into the purulent, and that to avoid this untoward event it is wiser to remove the catarrhal tubes. The reply is, that in these instances, especially if the woman is young and married, she will be willing to take her chances if the factors are fairly outlined to her; and, again, the justification of a major operation should rest on stronger grounds than a remote possibility. Serous pleurisy sometimes merges into empyema, and yet it is not a sound rule of practice to open the pleural sac to cure the former.

The condition just spoken of is, however, infrequent compared to that of hydrosalpinx and pyosalpinx. In case of pure hydrosalpinx we are not dealing with simple congestion associated with slight enlargement of the tube. We are brought face to face with a true tumor—that is to say, there is distinct enlargement of the tube from an accumulation in its interior of fluid other than pus. Here, if the disease is uncomplicated by circum-uterine exudation, the indication for extirpation may be readily formulated as the result of local treatment. If such treatment proves that the accumulated fluid can drain into the uterus, then there is no immediate call for laparotomy; indeed, the operation may never be demanded. Symptomatic cure may be attained without the knife, and this will satisfy the patient and ought to satisfy her attendant. If, however, the result of local treatment is not diminution in size of the enlarged tube, then, in view of the fact that the distending tube may rupture and the case become aggravated from the resulting circum-uterine exudation, and in view of the further fact that the fluid in the tube may become purulent, the indication is in favor of removal—that is to say, the future risk warrants present risk. Perhaps, instead of extirpation, the future may set its seal of approval on the opinion held by Polk, among others, that aspiration and drainage *per abdominem* is preferable to total extirpation. Whatever the case, operation is here indicated, and, in the opinion of the writer, by way of the abdomen, until the advocates of galvano-puncture *per vaginam* have amply proved by their work the validity of their statements.

To pass now to pyosalpinx. The diagnosis once absolutely established and the indication is extirpation. If the symptoms are not very aggravated, if the tumor, as determined under anæsthesia, is not large, if drainage into the uterus is evident, then palliation, perhaps symptomatic cure for years, is possible. In the experience of the writer, however, the tendency of this disease is from bad to worse, notwithstanding prolonged and rational local and general treatment. Eventually operation is indicated by the very urgency of the symptoms, and then the nervous centers, weakened as the result of prolonged invalidism, are often powerless to withstand shock. The diagnosis of pyosalpinx must, however, be clearly established, and this usually calls for most acute diagnostic acumen. The circum-uterine exudation accompanying pyosalpinx masks the condition of the tubes; therefore examination under anæsthesia is requisite to establish a diagnosis, as well as such local treatment as will cause the absorption of the major part of the exudation, and thus enable us to palpate the tubes. The thermometer, in obscure cases, will assist in diagnosis. Pus within the body necessitates hectic fever. A careful consideration of the past history of the patient is a further aid in diagnosis. Gonorrhœa, septic infection after miscarriage or labor, neglected or badly managed miscarriage, sounding of the uterus, injudicious intra-uterine applications, the intra-uterine stem pessary, the apparatus devised for insertion into the cervix for the cure of sterility—data of this nature in the past history of the patient, associated with hectic fever and, on local examination, the evidence of distended tube, of fixation of the uterus, etc., form the *ensemble* which justifies the diagnosis of pyosalpinx and a radical operation. This operation may not cure the patient. She may for years be hystero-neurotic; she may develop mania, but the radical operation, if she survives it, offers her a hope of cure not otherwise obtainable, and it removes at once the chance of death from what was formerly called idiopathic peritonitis. A frank statement of the probabilities will, in case of pyosalpinx, ordinarily cause the patient to demand the operation.

The indications, as very imperfectly outlined here, if accepted and stringently insisted upon, will place laparotomy for the removal of the diseased appendages in a more favorable light than it rests in to-day.

109 East Fifty-fourth Street.

ACUTE COLDS:

WHY AND HOW THEY SHOULD BE TREATED.

By C. H. STOWELL, M. D.,
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Among the diseases that people believe must be endured, acute colds stand in the foremost rank. It is understood that no ill effects follow their neglect, and no remedies give relief from their discomfort. It is equally true that the older materia medica brings to us but little hope of success outside of well-known household remedies. But now that the structures and functions of the nasal passages are so well known, and the therapeutics of some of the newer drugs so clearly demonstrated, there is no excuse for such neglect. To neglect a cold is to give an invitation to both annoying and serious affections, while to ask for relief is to obtain it.

It is only necessary to recall the exposed situation of the mucous lining of the upper air passages to fully appreciate the constantly recurring danger of exciting inflammatory changes. Let this membrane once become the seat of such changes, and it becomes more and more susceptible to exciting causes, until the most trivial exposures are sufficient to arouse old troubles. Resolution after each fresh attack is less and less complete, until finally there is developed a chronic catarrh.

As colds increase in frequency, so are they likely to increase in gravity. The inflammatory process extends farther down the continuous mucous lining of the air passages, until the larynx, the trachea, the bronchi, and even the deep lung structures may become involved.

So eminent an author as Bosworth says: "The question is often put to the physician whether a catarrh will lead to the eventual development of lung disorders; and it seems to me that the answer should be, It may and it often does." He also states that this may occur not simply as a result of the extension of the inflammatory process, as indicated above, but that the presence of the catarrhal inflammation is a prominent factor in inducing some of the graver affections of the lungs.

But there are other reasons why acute inflammations of the nasal passages should receive prompt attention. Viewed as a prophylactic, the nose has at least three important functions to perform: To warm, to moisten, and to filter the inspired air. Many experiments have been made to prove the first of these functions. Aschenbrandt, of Würzburg, and Greville have shown that if the inspired air enters one nostril at from 46·4° to 53·6° F., it will pass out of the opposite side of the nose, without having entered the lungs, at the uniform temperature of 86° F. Although these figures must represent the fullest capacity of the warming power of the nose, yet all writers agree that to warm the air is no mean part of the physiology of the nasal mucous membrane. Kayser corroborated the results of Aschenbrandt, and showed, in addition, that when cold air is inspired there is a marked increase in the blood supply to the turbinated bodies, thus greatly increasing their heating power.

A study of the oral cavity shows that its straight and large opening affords but little opportunity for the inspired air to come in close contact with its warm lining—certainly but very little as compared with the smaller and tortuous passages above. Recent observations of Bloch show that in oral breathing the air is warmed very little, if any. It is evident that if air of a low temperature be brought in contact with the lower respiratory passages, inflammatory processes may be induced—indeed, would be likely to be induced.

Physiologists state that at least a pint of serum is poured out by the venous sinuses of the nose each twenty-four hours. The inspired air, passing over the nasal mucous membrane, takes up this moisture and enters the bronchi in a state of saturation; therefore it will not take any moisture from the mucous lining of the bronchi. But the dry throat, following so soon after oral respiration, proves that in the mouth there is no provision for supplying sufficient moisture. The membranes soon become dry, and the air passes to the lungs, taking moisture from the bronchial mucous membrane. Deprived of its normal watery constituents, the normal mucus of the bronchi becomes thick and a source of irritation.

As a filtering agent, the nose not only protects the parts below from the irritating qualities of particles of matter, as found in dust and smoke, but to those who believe in the mischievous power of germs it must also act as a germ-filter. The tortuous structures over which the air must pass on its way through the nose make it altogether probable that all parts of the current of inspired air come in immediate contact with the nasal mucous membrane. It must follow that vast numbers of germs will adhere to this membrane. These germs may be those ever present in all inspired air, or those that may give rise to the gravest forms of disease.

But what is the nature of this nasal membrane? A highly vascular structure, crowded with mucous glands and held to the parts beneath by connective tissue.

To understand the full force of this answer, it is necessary to recall the observations of Metschnikoff on the power of certain amœboid cells of the body. In his address before the Alumni of Bellevue Hospital, reviewing the work of Metschnikoff and others, Osler shows how it is altogether probable that there are certain cells in the body—as the white blood-corpuscles, mucous corpuscles, both free and fixed connective-tissue cells—that have the power of taking within them, by means of their amœboid movements, certain germs. They have the power, also, of destroying or digesting these germs.

In the nasal passages are just those conditions necessary for one of the best battle-grounds so vividly described by Osler and others. On the one hand it is the narrow entrance, the gateway, to a great field beyond. The air enters, loaded with the necessary and also with the useless and injurious. On the other hand, notice how Nature has provided for the defense of this point of attack: a tortuous passage, so that the current of air can not pass below without first touching its warm and moist lining. In this lining are the ever-watchful defenders of Metschnikoff, congregated here "to utterly destroy the army of invading germs." Here, then, is continuously waged one of the great battles of modern biology.

Dr. Roughton, of London, has called attention to this "screening action" of the nose. He believes that it greatly diminishes the prevalence of phthisis. Viewed in this light, we are justified in accepting the new nomenclature, and hereafter speak of the nose as the "modern Pasteur filter." But this germ-filter can be easily converted into a germ-producer. A layer of dry or thick mucus forms a complete barrier between the friendly phagocytes and the invading enemy.

From what has been said, the following conclusions can be drawn:

1. The nose should be kept clean.
2. All obstructions to nasal respiration should be removed.
3. Mouth-breathers invite diseases of the throat and lungs.
4. Mouth-breathers are more likely to have certain of the diseases caused by the entrance of germs in the body.

If the nose plays so important a part, how can it be kept in a healthy condition? By promptly treating acute attacks. If the patient can be seen in the early stage, he should have at once a hot foot-bath and a bowl of hot lemonade. He should then be placed in bed and covered with blankets until copious perspiration is produced. If seen at a little later stage, and the fever seems excessive and the whole system affected, then there are two marked remedies at our command—aconite and belladonna. The tincture of aconite is best given in small doses, half a drop once every half-hour for a few hours, until its physiological action is apparent. If the discharge from the nose be thin or if the throat be involved, then small and frequently repeated doses of the tincture of belladonna will give marked relief. A brisk cathartic is often indicated and generally very desirable.

In the beginning of the attack the nasal mucous membrane is likely to be dry and swollen, giving the sensation of the presence of a foreign body, causing sneezing and a sense of fullness. In this early stage the abortive treatment, already alluded to, can be relied upon, if local treatment be combined with it. Cocaine and antipyrine are almost specifics for this trouble. They can be used as a spray in the strength of one per cent. of the former with four per cent. of the latter. Thus:

℞	Cocaine hydrochloride	gr. ivss.;
	Antipyrine	gr. xviij;
	Sodium bicarbonate	gr. v;
	Water	℥ j.

M. Sig.: Nasal spray.

This should be sprayed thoroughly into the nares. The swollen membranes soon retract, and nasal respiration is free and easy. The spray should be repeated as often as the nares become occluded. If any nasal symptoms remain after the first twenty-four or thirty-six hours, it is better to substitute a spray with an oil for its base. Thus:

℞	Cocain. hydrochlorid	gr. ix;
	Aquæ	ʒ ss.;
	Ft. solutio et adde	
	Olei petrolei	℥ j;
	Olei eucalypti	gtt. vj;
	Olei gaultheriæ	gtt. iij.

M. Sig.: Nasal spray. Shake thoroughly before using.

This spray can be used morning and night for a few days only, or until the acute catarrhal symptoms have disappeared.

As atomizers cost money, and as they can not be carried about readily, a powder may be substituted for both the above. Thus:

℞	Sodii bicarb	gr. ij;
	Magnesiæ carb. (levis)	gr. iij;
	Menthol	gr. j;
	Cocain. hydrochlorid	gr. iv;
	Sacch. lactis	ʒ jss.

M. Sig.: Use as snuff.

The most marked relief will follow the use of this powder, and a few applications will do much to abort the catarrhal attack. Its effects are immediate, highly agreeable to the patient, and continuous for a number of hours.

In the case of young children, where a powder or spray can not be used to advantage, an ointment can be substituted. Thus:

℞	Cocaine hydrochloride	gr. ix;
	Anhydrated lard, Vaseline,	āā ℥ ss.

M. Sig.: Ointment for the nose.

A small amount of this can be placed on the end of a feather and inserted into the nose.

A word concerning any objection that may be urged as to the use of cocaine in this manner. 1. The amount prescribed in each case is small; especially is this true of the powder. The prescription given above will last a patient for days—in fact, his acute catarrh will disappear before all the powder is used. 2. Neither the sprays nor the powder should be continued after the first few days of the attack. 3. They should not be prescribed for chronic catarrhal affections; for while it is true they give great relief in chronic hypertrophic conditions, yet the relief is but temporary, and their constant use may give most undesirable effects. 4. The physician should dispense his own powder, giving not over a drachm to each patient. If possible, he should dispense the sprays as well. By so doing he will retain the power to prevent any overuse or misuse of the drug.

1326 New York Avenue.

A STUDY OF THE PREVAILING EPIDEMIC OF INFLUENZA.

By GEORGE H. PENROSE, M. D.,
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The prevailing epidemic which has so recently swept down upon our country, and is still raging, can not help but interest the profession, and any means at our command to decrease the sufferings of our patients will be grasped with pleasure.

I have had the opportunity of studying nearly two hundred cases among the old soldiers at this Home, and have seen the disease in its many phases. As a rule, the symptoms varied but little at the commencement of the disease. Here the catarrhal symptoms of the nasal mucous membrane were most frequently absent.

Usually the first symptoms noticed were a general malaise, with very severe pains in the back and in the calf of one or both legs, and severe headache located between the eyes and in the eyeballs. The tongue was coated with a thick, brown deposit, the edges red and dry. The bowels were invariably constipated. These symptoms were soon followed by a chill, sometimes a rigor, and an elevation of temperature, rarely above 103° F., the pulse ranging from 100 to 105, the respirations but little altered.

In the uncomplicated cases gradual defervescence occurred in forty-eight hours, but in the cases where the disease ran into, or was complicated by, bronchitis, the temperature ranged about 102° F. from three to five days.

As the first symptoms declined, invariably the bronchial symptoms appeared, there being a profuse catarrh of the larger bronchi at times, but rarely pulmonary œdema; with the first bronchial symptoms the patients would complain of extreme chilliness of the anterior surface of the thighs, while the posterior surface would be uncomfortably warm. So frequently was this one of the most prominent symptoms that in all the cases studied it was absent in but three. The prostration which followed in every case was out of all proportion to the severity of the other symptoms. Occasionally there occurred a mild form of pharyngitis, but in no case was amygdalitis or intestinal catarrh present.

The most prominent symptom of the epidemic here appeared to be the bronchial catarrh, which in 95 per cent. of the cases was present, four of these cases presenting well-marked capillary bronchitis. The physical signs were, as a rule, those of an ordinary bronchial catarrh with an increase of the number and size of the mucous râles.

In every case there was marked anorexia, which persisted far into the period of convalescence. The duration of the disease was generally two weeks, but it took, of course, a longer time in cases of severe bronchial trouble.

Regarding treatment, if the case was seen at its earliest stage, a warm foot bath of mustard with hot drinks was ordered, followed by one-twelfth grain doses of calomel, combined with two grains of bicarbonate of sodium every hour till the bowels had been thoroughly moved.

In a number of cases this arrested the disease and no further treatment was necessary, save a few tonic doses of quinine. But the vast majority of cases were not seen till the first stage had passed and the harsh metallic cough, with yellowish expectoration and pain in the back, legs, and head, had made considerable progress; here the doses of the mild chloride and soda were increased.

For the severe pains and elevation of temperature, I found phenacetin and antipyrine acted most pleasantly, often so quieting the patient that he would pass into a quiet sleep, and awaken refreshed and free from pain for a longer or shorter period.

As the stage of bronchial catarrh progressed, expectorants were administered adapted to meet the different stages, the oil-silk jacket being frequently employed at an early stage, and, I think, thus adding much to prevent the subsequent pneumonia which has occurred in so many of the reported cases, but which occurred in but one case at this Home.

In many cases marked insomnia was present; here both the bromides and sulphonal were used, with the preference for sulphonal; it was administered in from ten to fifteen grain doses, and procured from six to nine hours' quiet rest. Often, however, the phenacetin produced the necessary quiet, and no further sedative was necessary.

Recognizing the decided adynamic character of the disease, tonics and stimulants were early administered, and in not a few cases long continued. As the disease drew to a close the lungs cleared and the pains abated; then the sulphonal played its most important rôle, as the patients were almost invariably troubled with insomnia. At no time were the slightest unpleasant symptoms noted from its use, although it was administered in several cases of severe cardiac trouble.

Concerning the advent of the disease at this Home, no explanation can be given; the first appearance of it was in one or two cases far removed from the barracks, but upon the day following these cases some twenty or thirty men reported at sick-call, all suffering with nearly the same stage of the disease.

PRIMARY CHANCRE OF THE CONJUNCTIVA.

By F. W. MARLOW, M. D., M. R. C. S.,
PROFESSOR OF OPHTHALMOLOGY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF SYRACUSE, N. Y., ETC.

The following case is thought worthy of record on account of its rarity and the perhaps somewhat unusual character of the source of infection. A fair number of cases of Hunterian chancre of the lid margin have been reported, but very few in which the sore has been situated on more remote portions of the conjunctiva. Nettleship has reported two cases, one of which I had the good fortune to see, and Wherry and Adams each one, in which the chancre was situated on the palpebral conjunctiva near the posterior margin of the tarsal cartilage of the upper lid. Beyond these I am aware of no reported cases.

Mrs. G., aged forty-nine, a widow, seen for the first time on August 24, 1886. At that date the left upper lid had been inflamed and swollen about one week; there had been sufficient pain to disturb rest, and some discharge. I found the lid much swollen, especially at the inner end, where a deep circumscribed induration could be felt. The upper lid overlapped the lower and could not be everted. By lifting it slightly away from the eye the presence of chemosis was made out, and also the fact that the cornea and iris were normal in appearance. There was some flaky discharge. Lead lotion and hot fomentations were ordered.

August 26th.—No better; pre-auricular gland enlarged. The possibility of its being a case of primary chancre was entertained. No ulceration could be made out, however, on the conjunctiva as far as it could be exposed. The family physician knew of no possible source of infection.

I was called to see her again about ten days later. No improvement had taken place in the interval. Ulceration had now extended to the edge of the eyelid near the inner canthus, and a ragged ulcer could be seen on the palpebral conjunctiva by partial eversion of the lid. There was considerable pain; the pre-auricular gland was larger, and the glands under the left side of the jaw were swollen to the size of a small orange. The fauces were congested but no ulceration was seen. There was one doubtful spot on the nose but no general eruption.

The diagnosis of primary chancre was made, and confirmed before we left the house by finding that the patient's daughter was the mother of an illegitimate child, the subject of typical and severe inherited syphilis. It was small in size, wizen-faced, and covered from head to foot and down to its finger tips with papulo-squamous copper-colored eruption. The grandmother (the patient) had been taking almost entire charge of the child. It seemed most probable that infection had been produced by the fingers of the child coming into contact with the eye of the patient, although we could obtain no history of this fact.

Rapid improvement took place under the local application and internal administration of mercury.

The exact site of this chancre could not be determined, but it seems probable that its starting point was in the retro-tarsal fold, rather than entirely upon the palpebral conjunctiva; for this position would better explain the chemosis and the impossibility of everting the lid. In the late stage, however, ulceration spread along the palpebral surface to the margin of the lid.

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WHAT THE OBSTETRICIAN OWES THE BABY.

This formed the subject of a paper by Dr. A. Jacobi, read at a recent meeting of the Clinical Society of the Post-graduate Medical School and Hospital. The obstetrical forceps as a cause of idiocy and epilepsy received careful attention, and observations were cited to show that lines of cortical degeneration often corresponded exactly to regions where great pressure had been exercised with this instrument. The consideration of these facts led Dr. Andrew F. Currier to suggest a plan by which meddlesome midwifery might be robbed of some of its terrors—to make a special examination in operative midwifery a legal necessity before any practitioner, however skillful otherwise, should be allowed by the law to assist at instrumental delivery. The speaker cited a tragic instance, coming within his knowledge, where an obstetrician had brought away a portion of the uterus with the forceps and remained ignorant of the fact that any damage had been done. The grave covered up the doctor's mistake. Whether he had thrown away his forceps or not, was not stated. Dr. Currier spoke eloquently in behalf of bapless infancy, and offered up his experience, observation, and thought upon the recorded facts of others in the cause of the weakest and most helpless of human beings—the baby. To avoid septic infection through the open wound in the umbilical cord, he suggested a plaster-of-Paris dressing. Electricity as a means of resuscitating asphyxiated infants was advocated by Dr. Jacobi—a method of procedure requiring, of course, sufficient discrimination and care, but safe when these factors enter into it. In a large proportion of idiotic children—usually first-born and boys—a history of asphyxia at birth could be obtained. The reader of the paper mentioned the sad fact that the earnest physician, who spent any amount of time endeavoring to resuscitate an asphyxiated infant, too often as his reward found that he had given to the family a hopeless idiot or an epileptic, and thus unintentionally increased the suffering of this overburdened world. This led some of Dr. Jacobi's listeners, imbued with the spirit of good citizenship, to speculate upon the duty of the obstetrician to the asphyxiated baby. Dr. H. J. Garrigues thought more attention should be paid to keeping the new-born child warm. It needed very little air, but warmth was imperative. The care of the eyes was also ably discussed, and it was stated that half of all the cases of blindness were directly or remotely due to ophthalmia neonatorum. In answer to a question, Dr. Jacobi said that the infant should be fed whenever necessary, regardless of the number of hours it had been in the world. Some women had milk before the baby came, in some it appeared shortly after the child's arrival, while others had no food for their infant for three or four days, and, again, it happened that some women had no milk at all. Should the baby wait for nourishment till its mother could nurse it? Why should a child weighing six or seven pounds at birth lose one or two, sometimes three, pounds during the next few days? The speaker thought such a catastrophe should never be allowed to happen.

One duty of the obstetrician was not mentioned—possibly because it goes without saying: the duty of securing for the new baby its natural nourishment. "Can a woman forget her sucking child?" asks the sacred chronicle. It seems in these days that many women can and do, choosing rather their own selfish ease than the life-long good of the little ones intrusted to their care. It is estimated that about forty per cent. of all mothers relegate the duty of lactation to the wet-nurse, or substitute artificial feeding from the first. Let not these fools imagine they can escape the Nemesis of outraged nature. Uterine disorder steps in, and painful or malignant affections of the breast attest the truth of the old saying that whoever dances must pay the piper. A celebrated obstetrician in another city says that he never insists that mothers shall nurse their infants; they object to it, and there are too many children in the world already! "What France needs," said the great Napoleon, "is mothers." This is equally true of America. It is difficult for men to realize the dense ignorance of the average woman in regard to all that pertains to her special work in life, the work that she is supposed to do well and accept as a matter of course simply because she is a woman. Were this thoroughly realized, the duty of the obstetrician would widen materially, and the enthusiastic practitioner would necessarily think twice before electing to pursue the practice of obstetrics as a specialty. Improved man means improved woman. "If she be small, slight-nurtured, miserable, how shall men grow?" The duty of the doctor to the child embraces also his duty to the mother. Missionary work in this direction presents a field almost boundless. Happy the man who fitly endows a life by his wise counsels to the woman in whose keeping it is!

THE IMPORTANCE OF VULVO-VAGINAL INFLAMMATION IN CHILDREN.

The statements of enthusiastic workers in regard to the serious consequences which might follow vaginal gonorrhœa in the adult were received at first with considerable incredulity by conservative physicians, but patient research by surgeons and pathologists has proved conclusively that many pelvic troubles which were formerly supposed to be primary inflammations really originate in disease of the vagina, especially gonorrhœa, and spread thence by way of the uterus and the Fallopian tubes to the peritonæum. The knowledge of the serious consequences of severe inflammation of the vagina in the adult has naturally led to a more careful study of the results of the purulent vulvo-vaginal inflammation so frequently seen in children. Analogy would suggest that this disease, which is in many instances the result of gonorrhœal infection, might possibly lead at times to purulent inflammation of the uterus and the Fallopian tubes, and finally to intense purulent peritonitis. The condition of these parts in the child, however, is so different from their condition in the adult—they are so undeveloped in the child—that such speculations based upon analogy could not be of much value unless supported by specific facts. Such facts are not wanting. Sänger has reported a case in which a girl, three years and a half old, had intense peritonitis from gonorrhœal infection. Hatfield relates a case resulting in peritonitis. Caillé has seen an infant, five months old, the child of a man who had gonorrhœa, which suffered from ophthalmia, vulvo-vaginal catarrh, and fatal peritonitis.

An excellent review of the subject, with histories of two other cases of this nature, is given by Dr. Huber, in an article read before the American Pædiatric Society and published in the Archives of Pædiatrics. His first patient, a frail, anæmic girl of seven years, with a poor appetite and constipated bowels, had been troubled for a short time with a vaginal discharge. The vulva was inflamed, and a few drops of pus were seen about the orifice of the urethra. There was an abundant greenish discharge from the vagina. The hymen was intact, no evidences of violence were seen upon the genitals, and no cause of the trouble could be learned from the attendant. The discharge was not examined for gonococci. Office treatment was given for a few days, when the patient took to bed with pelvic soreness and general weakness. Next morning vomiting occurred, but the pulse was good and the rectal temperature was normal. In the evening pain in the right iliac fossa, vomiting, subnormal temperature, and collapse were observed. Next morning the patient had rallied from the collapse, but could not urinate. The urine was drawn off and was found to be free from albumin. During the day vomiting of greenish matter occurred, marked tympanites set in, with severe abdominal pain, and the pulse became frequent and weak toward evening. On the following afternoon the temperature in the rectum was 101°, the pulse was 150 and very weak, and vomiting was incessant and uncontrollable. Three physicians who were consulted agreed with Dr. Huber that acute general peritonitis was present, due probably to perforation of the appendix vermiformis. At night laparotomy was done. The peritoneal cavity contained sero-purulent fluid, and the intestines were full of gas, congested, and covered with lymph. The appendix vermiformis was normal. The right Falloppian tube, however, with its fimbriæ, was inflamed, thickened, and evidently the channel by which infection had been conveyed to the peritonæum. The abdominal cavity was carefully washed and closed. No additional shock could be noted from the operation. Pain and vomiting continued, and death occurred twenty hours later. In the second case, seen in consultation, a girl of eleven years had intense pain in the right groin, the right thigh being flexed on the abdomen, difficulty of urination, and vomiting. A severe vaginal catarrh being observed, a vaginal examination was made, which revealed an inflamed and exquisitely tender ovary. The hymen was absent. The further history of the case is not given.

It has been suggested that in many instances the pyosalpinx and old localized peritonitis, the deformity and faulty development of the uterus, which cause so much dysmenorrhœa and anguish, sterility and domestic unhappiness in young women, are the direct result of vulvo-vaginal inflammation in infancy or childhood. If these views are correct, certainly that affection deserves more careful and thorough treatment than it usually receives from the family physician.

MINOR PARAGRAPHS.

INFLUENZA AMONG THE SIOUX OF SOUTH DAKOTA.

The Cincinnati Lancet-Clinic has a letter from Dr. Fred. Treon, agency physician among the Sioux Indians of South Dakota, descriptive of the ravages of epidemic influenza among the red men. The writer begins by saying that any kind of epidemic is serious with those people, by reason of their being, many of them, diseased and deficient in vitality. In the next place, they do not know how to care for themselves or for their sick ones, in illustration of which statement it may be said that by consumption alone 45 deaths occurred among 1,100 persons at that agency in one year. Of the mortality by influenza, the writer affirms that it has been alarmingly severe, as many as six deaths having been reported in a single day. It has been an especially serious disease among very young children, by reason of the pneumonia which their manner of life and many exposures naturally invite. The ordinary Indian cabin is so built as to admit but little light and no air; the temperature within it is maintained at a high point and the atmosphere is stifling and sickening to the white man. With their bodies thinly clad, the occupants pass out of doors into a chilling atmosphere, with the mercury, at times, below zero. The babies, carried about on their mothers' backs, get their full share of dangerous exposure. Add to this that the children have passed but recently through an epidemic of whooping-cough, and the conditions favorable to a destructive outcome from any epidemic implicating the respiratory organs will be recognized. As an evidence of what good care and nursing will do, under a good roof, Dr. Treon states that at the Crow Creek Agency Boarding School, where they have nearly a hundred Indian children, not a death has occurred, while at their people's cabins, near by, death has been an almost daily visitant, and the epidemic broods over those poor, ignorant aborigines like a pall of gloom.

THE ANTISEPTIC MANAGEMENT OF VACCINATION.

The application of an antiseptic treatment of the vaccinal wound is the theme of Dr. John Bark, of Liverpool, in the British Medical Journal. He describes a method which he has himself employed for a year. Briefly summarized, his plan is the following: A pad of borated absorbent cotton is applied as soon as the vesicle has opened, on the eighth day, before which day, in his experience, septic absorption does not take place. The pad is covered at the back and edges with antiseptic gauze, to be held in place by three half-inch tapes. Instead of the borated cotton, there may be used for the purposes of the pad either eucalyptus cotton-wool or Hartmann's perchloride wood-wool, the latter, perhaps, being the best on account of its greater absorbent properties. The mother must be instructed not to remove the pad under six days. Dr. Bark argues from his experience in about a hundred cases, some of which presented a large inflammatory areola, that this plan of treatment allays the tendency to inflammatory infiltration and mimimizes the dangers of erysipelas and blood-poisoning, those *bêtes noires* of all vaccinators. The pad not only imbibes all discharge and prevents its becoming septic in character, but serves as a shield against external violence. The pad will not, of course, be allowed to be used a second time like ordinary shields, which it is too often the dangerous practice to use again and again. From Dr. Bark's article it would appear that all the cases treated in the way above described were those of infants undergoing a primary vaccination, and he especially recommends the method for infants in unsanitary neighborhoods who have little care or cleanliness to second the efforts of the official vaccinator to bring about a good result.

THE CLINICAL STUDY OF FEVERS.

Both at Glasgow and at Edinburgh the fever hospitals are now being put into use as fields for clinical study. The City Hospital, of Edinburgh, boasts of a class of one hundred and eighty students. Hitherto an obstacle in the way of introducing a class into a hospital for infectious disease has been the risk of diseases being communicated to the students themselves, with the still greater danger from their carrying infection to the outer world. Dr. W. Allan Jamieson, of Edinburgh, has contrived a plan by which students are taken around the wards in detachments on stated days, and he has instituted such precautions as to reduce to a minimum the danger to the students and to the public. Last year no student contracted any of the diseases to which he was exposed, and this year one case of scarlet fever was reported. Dr. Jamieson, in a letter to the Lancet, gives no details of the means of protection he has found so effectual. The subject, however, has been engaging the attention of the profession in England. A scheme is on foot for utilizing for clinical instruction the numerous fever hospitals of the metropolis, and a committee appointed by the Metropolitan Asylum managers has drawn up some suggestions which have received the approval of the Royal College of Physicians. This scheme provides precautions against carrying infection, in the shape of overalls of brown holland. The student on entering the hospital goes to Room A, where he divests himself of his outer clothing. Room B is a lavatory and Room C contains the hospital suit. On leaving the hospital, the student is required to enter C, doff his hospital suit, pass into the lavatory, where he must carefully wash and disinfect his hands, face, and mouth, and then resume in Room A his ordinary garments. Students will be required to keep their hair short and satisfy the medical superintendent that they are protected against small-pox by vaccination or otherwise. The fee is to be three guineas for a two months' course.

PROLONGED SOMNOLENCE FROM SULPHONAL.

The Medical Press and Circular relates that a workman in one of the German chemical laboratories, being in great need of sleep and determined to get it, took a tablespoonful of sulphonal early one Saturday evening. In half an hour, feeling no effects from that dose, he took two tablespoonfuls more, and then betook himself to the village beer-shop. He drank a small quantity of beer, but a feeling of weariness soon overcame him, so that he was obliged to go home and go to bed. He went to sleep and remembered nothing until Monday morning, about ten o'clock, when he was aroused for a short time, but went to sleep again. He was again awakened at about midday on Tuesday, remained awake for some hours, was ravenously hungry and enjoyed some food, but at eight in the evening became drowsy again and slept until seven o'clock on Wednesday morning. He then arose, and from that time felt no sense of weariness or mental disturbance referable to the large doses of the hypnotic. The duration of his somnolence was not less than the equivalent of three days of twenty-four hours each.

MECONARCEINE.

M. Laborde's studies concerning meconarceine, as given in the Revue des sciences médicales, show that the physiological properties of this alkaloid, or mixture of alkaloids, are about the same as those of narceine. It is decidedly hypnotic, and may be used in all cases of insomnia. Its action on the mucous membranes resembles that of morphine, and Laborde believes that it will be most useful in cases where the morphine habit has been established, or where the prevention of that habit indicates the employment of some substitute. He recommends it in those forms of bronchial and broncho-pulmonary affections that are attended by cough and a supersecretion of mucus. In neuralgia he has used it both hypodermically and as an external application. The term meconarceine is used by Laborde to indicate, not a single alkaloid, but a mixture of those opium alkaloids which are not soluble in ether.

THE WOMAN'S HOSPITAL, OF BROOKLYN.

Many of our readers are doubtless familiar with the accusations brought against Dr. Mary A. Dixon Jones and her son, Dr. Charles N. Dixon Jones, physicians of the hospital, and their consequent indictment. The case has lately come to trial, and both physicians have been found not guilty. The charges were such as, if substantiated, would have crushed both mother and son, and seriously crippled the hospital's further usefulness. Their lack of reasonable foundation has been apparent from the first to those who have known of the simple facts, and the jury's verdict, welcome as it is to those who are not wholly given over to the sport of "roasting" doctors, was not unexpected.

BODY-SNATCHING IN INDIANA.

It is to be hoped that the newspaper accounts of a recent attempt at the desecration of a grave in Indiana, in which two gentlemen connected with a Louisville medical college are said to have been implicated, will prove to have been more explicit and circumstantial than the facts warrant; it is furthermore to be hoped that the Indiana law makes sufficient discrimination between an abortive attempt of this sort and its consummation to allow of the escape of those gentlemen from severe punishment; and it is most of all to be hoped that the day is not far distant when all the States will make such provision for supplying the medical schools with anatomical material as to render the desecration of graves superfluous.

THE BOTKIN-HAUS.

The memory of the lamented Dr. Botkin, of St. Petersburg, is about to be honored in the very way which he himself would no doubt have chosen. A home for destitute medical men and for their widows and orphans is to be established at the Russian capital. It will bear his name and be called the Botkin-Haus.

THE INSANE PAUPERS OF THE STATE OF NEW YORK.

The bill advocated for a number of years past by the State Charities Aid Association, to rescue insane paupers from the hands of county officials and commit them to State care, is again before the Legislature. Its provisions are wholly in the interest of humanity and should be repugnant to none but those who are bent on making or saving a few dollars by subjecting their unfortunate fellow-men to unnecessary distress. We can see, therefore, no respectable excuse for a single vote against the bill, and we hope to be able to announce its prompt passage and the Governor's approval.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 25, 1890:

DISEASES.	Week ending Feb. 18.		Week ending Feb. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	13	6	17	6
Scarlet fever	85	11	87	11
Cerebro-spinal meningitis	1	1	5	3
Measles	82	3	95	12
Diphtheria	82	35	110	25
Varicella	8	0	7	0

The East Mississippi Insane Asylum.—Dr. J. M. Buchanan has been appointed superintendent to fill the vacancy caused by the expiration of Dr. C. A. Rice's term of service.

The Harlem Medical Association.—The seventh regular meeting will be held at No. 5 West One Hundred and Twenty-fifth Street on Wednesday evening, March 5th, at 8 o'clock.

Official Changes in Kings County.—The new board of Charities Commissioners of Kings County has voted to appoint Dr. P. L. Schenck physician to the penitentiary, and Dr. E. T. Metcalfe and Dr. Joseph O'Connell examining physicians.

The Medical Microscopical Society of Brooklyn.—At the next meeting, on Tuesday evening, the 5th inst., Dr. C. Heitzmann will exhibit some rare specimens.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 9 to February 22, 1890:*

Smith, J. R., Lieutenant-Colonel and Surgeon, is granted leave of absence for twenty days—to take effect about February 10th. Par. 1, S. O. 15, Headquarters Department of Arizona, February 8, 1890.

Crampton, Louis W., Captain and Assistant Surgeon, by direction of the President, is detailed as a member of the Army Retiring Board at Chicago, Ill., convened by War Department order dated November 18, 1889, published in S. O. 269, November 18, 1889, from Headquarters of the Army, *vice* Major Henry McElderry, Surgeon, hereby relieved. Par. 9, S. O. 36, A. G. O., February 12, 1890.

Smith, Andrew K., Colonel and Surgeon. By direction of the Secretary of War, the retirement from active service on February 9, 1890, by operation of law, under the provisions of the act of Congress approved June 30, 1882, is announced. Colonel Smith will proceed to his home. Par. 5, S. O. 34, A. G. O., Washington, D. C., February 10, 1890.

Tilton, Henry R., Major and Surgeon. By direction of the Secretary of War, leave of absence for two months is granted, to take effect upon his being relieved from duty at the U. S. Military Academy, West Point, N. Y. Par. 6, S. O. 34, A. G. O., Washington, D. C., February 10, 1890.

Loring, Leonard Y., Major and Surgeon. By direction of the Secretary of War, the extension of leave of absence on surgeon's certificate of disability granted in S. O. 268, November 16, 1889, from this office, is still further extended two months on surgeon's certificate of disability. Par. 7, S. O. 34, A. G. O., Washington, D. C., February 10, 1890.

McElderry, Henry, Major and Surgeon, is relieved from duty at Fort Wayne, Michigan, by direction of the Secretary of War, and will report in person to the superintendent of the U. S. Military Academy, West Point, N. Y., for duty as post surgeon, relieving Tilton, Henry R., Major and Surgeon, who, after being thus relieved, will report in person to the commanding officer, Fort Wayne, Michigan, for duty at that station. Par. 13, S. O. 33, A. G. O., Washington, D. C., February 8, 1890.

Alexander, Charles T., Lieutenant-Colonel and Surgeon, is relieved from duty as examiner of recruits in New York city, by direction of the Secretary of War, and will report to the commanding general, Division of the Atlantic, for duty as attending surgeon in that city. Par. 1, S. O. 33, A. G. O., Washington, February 8, 1890.

Taylor, B. D., Captain and Assistant Surgeon, is granted leave of absence for fifteen days, to take effect on the 15th proximo. Par. 2, S. O. 17, Headquarters Department of the Missouri, February 7, 1890.

Retired.

Smith, Andrew K., Colonel and Surgeon, February 9, 1890. Act of June 30, 1882.

Promoted.

Raymond, Henry I., First Lieutenant and Assistant Surgeon. To be Assistant Surgeon, with the rank of Captain, after five years' service, in accordance with the act of June 23, 1874.

Society Meetings for the Coming Week:

Monday, *March 3d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association (annual); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *March 4th:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Essex, Mass., South District Medical Society (annual—Salem); Baltimore Academy of Medicine.

Wednesday, *March 5th:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *March 6th:* New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *March 7th:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *March 8th:* Obstetrical Society of Boston (private).

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Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of January 8, 1890.

The President, Dr. C. K. Briddon, in the Chair.

Pistol-shot Wound of the Ear.—Dr. L. A. Stimson presented a young man who, on the 14th of December, was admitted to the hospital with a pistol-shot wound of the right ear. The pistol, said to have been of ·32 caliber, had been held immediately against the ear. The speaker had seen him an hour or two after the injury and had found him with a large lacerated wound in the concha of the ear. The bullet had entered just behind and above the orifice of the external auditory meatus, splitting the cartilage quite extensively. No pigmentation of the skin by grains of powder had taken place. The patient was nauseated and constantly trying to vomit. A probe introduced into the wound touched bare bone, which was made out to be the margin of the external orifice of the bony canal. On the wound being enlarged, it was found that the ball had subsequently entered the cartilaginous part of the canal and had lodged in the middle ear. Examination with a Nélaton probe gave a lead stain. After one or two unsuccessful attempts the bullet was extracted and proved to be a small piece of lead weighing only twelve grains. Such a bullet might have been fired from a pistol of ·22 caliber, known as the "bullet breach," of the kind used in target practice. Such a bullet had never belonged to a ·32 caliber pistol. Either there was more lead in the patient's head or the story about the caliber was untrustworthy. A probe encountered bare bone at considerable depth. The bulb of the probe passed beyond that point into the cavity of the middle ear. On its withdrawal there was no indication of lead on it. The nausea had lasted until the next morning. No disturbance of equilibrium had been noticed. Hearing was absolutely lost on that side. A point of interest in the case lay in the fact that taste was entirely lost in the corresponding lateral half of the tongue, presumably because of injury to the chorda tympani where it crosses the membrana tympani. This loss had not been recovered from.

Perinephritic Abscess; Nephrectomy.—Dr. Stimson reported the case of a man, thirty years of age, who in 1887 had suffered from a lumbar abscess which had been opened by Dr. Weir. Six months later, sinuses having formed, Dr. Weir had operated again and removed a kidney stone. Two years subsequently the patient had again come to the hospital complaining of a sinus which was freely discharging pus and urine. The sinus was situated five inches to the right of the spinal column on a line midway between the crest of the ilium and the ribs. The case had come under the care of the speaker, who decided to remove the kidney. Being aware of the danger connected with an attempt to follow the sinus as a guide, he had made his incision well to the inner side of the sinus in the normal tissues, and, after having reached and thoroughly exposed the kidney, he had made a second incision outward from the center of the first, reaching to and circumscribing the orifice of the sinus, and had then dissected out the sinus and removed it with the kidney. The stump was tied with silk. The silk had not come away when the patient left the hospital; since then its softened ends had been torn away, and the wound had healed over what was left. The entire kidney was removed, and was found to be disorganized and its structure quite destroyed.

Appendicitis.—Dr. Stimson then presented the case of a man whose appendix had been presented three or four weeks before. He had come for relief after the third attack of appendicitis in about two years, and on the second day of this attack. An operation had revealed a small abscess near the root of the appendix. The appendix was removed after ligating its base. The patient was brought to show the final result and perfectly sound condition. The operation was performed on the 29th of November.

Costo-chondral and Chondro-sternal Dislocations.—Another case presented by Dr. Stimson was one of a rather exceptional series of dislocations and fractures. The patient had been caught and squeezed between a moving car and a wall. This was done on the 16th of December. The patient had been crowded into a space of only six or seven inches. He was brought into the New York Hospital on the 19th of December. There was a partial dislocation backward, with possibly fracture, of the inner end of the right clavicle and a costo-chondral dislocation of the second rib on the right side, nearly complete, while the third, fourth, fifth, and part of the sixth right cartilages were displaced forward. These dislocations were quite rare. It was a curious fact that some patients whose chests had been violently compressed had a remarkable change of color over the face and chest, the natural tint becoming very much deepened and darkened. This did not disappear on pressure, neither was it of the nature of an ecchymosis. It did not disappear for quite a long time. This was accompanied in some cases by free bleeding from the nose and by subconjunctival ecchymoses. The staining was probably from the coloring material of the blood, but in what way it got out of the vessels and stained the tissues he could not say. The condition would appear instantly, and the cause seemed to be compression of the chest.

Dr. B. F. Curtis said that he had seen a similar injury in a man who had been pressed between two cars going round a curve. There was a fracture of the clavicle at the site of a previous fracture, also a depression of the second, third, and fourth ribs of the right side.

The President asked how long the discoloration of the skin lasted.

Dr. Stimson said that in some cases it was several weeks before it finally disappeared, depending upon the intensity of the primary coloring. In one case now under his care the discoloration was so marked that the ambulance surgeon had supposed the patient to be a negro.

Does Ether Anæsthesia injuriously affect the Kidneys?—Dr. R. F. Weir read a paper on this subject. (See p. 225.)

The President said that the paper dealt with a class of cases with which they were all familiar. It had long been recognized that there was a class of symptoms following some operations by which certain disturbed conditions of the kidney were manifested. There had always been a doubt in his mind as to whether these symptoms were due to ether narcosis or to sepsis. It was now his impression that ether had but little to do with these complications, but that they were due to the increased demand made upon the functions of the kidney necessary in getting rid of effete material.

Dr. Stimson said that he had been stimulated, a few years ago, by doubt on this subject, to make some examinations of the urine of patients about to undergo, or who had already undergone, etherization, exclusive of that for operations upon the urinary tract. He had gathered the impression that ether was prone to increase the amount of albumin in the urine when it had previously been present. In some two or three cases there had been a notable increase, lasting, however, only a few hours. Continuation of the investigations had brought no additional cases to light. All were familiar with the way patients behaved after narcosis by ether for operations on the deep urethra for obstructive lesions of long standing, and with the danger to life connected with such operations. The patients were usually alcoholics whose kidneys were damaged. During the last year he had substituted cocaine, and the effect had been striking. He had operated upon a considerable number whose general condition was such that he feared to use ether. With cocaine he had done a number of operations upon the urethra through the perinæum. These patients had looked the next day as though no operation had been performed upon them. There was no reaction, at least nothing in the slightest degree to be compared to the severity of the reaction after the use of ether. He was thoroughly convinced that the avoidance of an anæsthetic at that time saved patients a great deal of risk to which cocaine did not subject them.

Dr. R. Abbe cited the case of a middle-aged man upon whom he had operated for the radical cure of hernia, using cocaine. This patient had had suppression and all the phenomena of uræmia, and his life had been despaired of. No ether had been used, or he would have credited it with the untoward result. He had made some observations on the appearance of the products of iodoform in the urine, and had found iodine in the urine in one fifth of the cases in which iodoform dressings were used, whether the wound was stuffed or not. Anything used about the wound was liable to be absorbed locally and by the kidneys. Ether should be used in conjunction with morphine more frequently.

Dr. J. A. Wyeth said that there was a class of individuals in whose urine albumin was found after any nervous excitement. In the case of a patient now under the care of Dr. Janeway it had been demonstrated that it was possible to produce albuminuria at will. The patient would come into the office, and after he had emptied his bladder the urine would be found without a trace of albumin. Then, on propounding to this patient some abstruse problem in mathematics, or suggesting anything to excite him, albumin would appear in from fifteen minutes to half an hour. Another cause of the acute changes in the kidneys was the reckless, unjustifiable exposure of patients to cold irrigating solutions and in a cold operating-room. The operator would get warm, and doors and windows would be thrown open and the patient get a chill. These causes would act to bring about many of the changes in the kidneys and the production of phenomena wrongly credited to ether. His experience with cocaine was quite extensive and corroborated what Dr. Stimson had said. He had never seen any accident after its use, and had employed it in a large number of urethrotomies upon the deep urethra.

The President said it was well known that the large majority of urinary fevers reported had followed the simple introduction of instruments without any cutting at all, and he thought the fact that so many serious accidents had followed manipulations with bougies or divulsing instruments should influence the judgment very much as to the advisability of using cocaine in preference to ether.

Dr. J. D. Bryant had seen two deaths result from the use of ether. One case had occurred while he was an interne at Bellevue, in which the ether was administered by himself for dislocation of the thigh. The ether was given for an hour, and the patient was then removed from the amphitheatre to the ward, but did not recover consciousness. On examination, some hours after the operation, the bladder was found almost empty. The small quantity of urine which was found contained albumin and casts. One defect in the case was that no note had been taken as to the condition of the kidneys prior to the operation. The man had died of suppression. The next case had occurred two or three years ago, in the practice of Dr. Keyes. The patient died on the table during the course of an operation. Ether had been given most carefully. The speaker never felt any apprehension as to the administration of anæsthetics. It was his custom, however, always to insist on an examination of the urine being made, and, in case of any evidence of possible kidney lesion, to enjoin strict care in the administration of the ether.

Intestinal Anastomosis.—Dr. Abbe exhibited two specimens which demonstrated very satisfactory results from the operative procedure of intestinal anastomosis.

Foreign Bodies in the Throat.—Dr. Stimson exhibited a twenty-five-cent piece which he had removed with a coin-catcher from the œsophagus of a child eighteen months old. The coin was recognized by probing with an œsophageal bougie. It was below the level of the cricoid cartilage, and had been there over five weeks.

Dr. Abbe showed a pin which had been swallowed by a boy some two years and a half ago. The boy had lost his voice and appetite, had wasted away, was hectic, and wheezed like an asthmatic. Having persuaded the boy to permit an examination, the speaker had found the upper part of the pharynx and the laryngeal orifice stenosed and œdematous. The patient had coughed considerably during the examination, but nothing had come of it. He went home, and there, during a violent fit of coughing, brought up the pin.

Dr. Weir mentioned the case of a child who, four years ago, had swallowed something. The child vomited and lost its voice. Examination with the finger met with resistance, and further investigation resulted in the extraction of three cents—one two-cent piece and a cent lying on it. They had lodged a little below the cricoid cartilage.

The President said that he had, some time ago, presented to the Pathological Society a miniature velocipede which he had, after great difficulty, succeeded in removing from a child's throat. He had got hold of one of the wheels, which, unfortunately, broke off, and the axle of the vehicle transfixed the soft parts. After great care and much trouble the whole velocipede was extracted. It was about an inch in diameter and had been used as a scarf-pin.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of February 4, 1890.

The President, Dr. George W. Jacoby, in the Chair.

Multiple Cerebral Softening, with Widespread Endarteritis and a Dissecting Aneurysm of a Branch of the Left Middle Cerebral Artery.—Dr. Christian A. Herter described a case of this sort.

The patient was a woman, thirty-two years of age. Her family and personal history were negative. She indulged in the use of beer and light wines in moderation. No history of syphilis could be obtained and syphilitic infection seemed improbable. Up to the beginning of her fatal illness she had been in ordinarily good health. On the morning of March 2, 1888, she had an attack of left hemiplegia, without loss of consciousness. In the course of two or three weeks there was sufficient recovery of power to enable her to walk with the aid of a cane. A second attack of hemiplegia occurred seven months after the first. This time the paralysis was on the right side and was accompanied with motor aphasia. No loss of consciousness, properly speaking, occurred at the time of the attack. The patient became apathetic, but could be roused without difficulty. On November 15th, ten days after the second attack, she was admitted into the Presbyterian Hospital in a condition of stupor. Examination failed to discover evidences of thoracic or abdominal disease. The condition of the various forms of sensibility could not be determined, owing to the patient's mental state. The plantar reflex and the knee-jerk were absent on the right side. The pupils reacted normally. The hemiplegia was difficult to make out, owing to the mental state. Urine and fæces were passed unconsciously, but there was no sphincteric weakness. Two weeks after her admission a slight rise in temperature was noted. During the remaining period of her life—a period of two weeks—the temperature ranged irregularly between 101° and 104° F. No physical signs of thoracic disease were detected. There was no cough. Four days before death there appeared conjugate deviation of the eyes to the left. This condition continued without change until death. There were no ophthalmoscopic changes. Three days before death the left arm became cataleptic. This localized catalepsy persisted until death. On December 14th the patient died in coma. The autopsy showed the presence of double hypostatic pneumonia. The other viscera were normal. The meninges were normal. The left hemisphere was distinctly larger in every dimension than the right. Coronal sections showed the existence of several foci of softening. One of these, of considerable extent and recent date, occupied a large part of the left frontal lobe and the motor path between the internal capsule and the cortex. A small cicatrix was found in the right hemisphere, occupying the lateral half of the caudate nucleus and the mesial part of the internal capsule. The arteries at the base of the brain appeared normal, but a careful microscopical examination showed the existence of wide-spread endarteritis of the medium-sized and small arteries of the brain. Degenerative changes were not observed in any vessel. A very remarkable condition was discovered in a large branch of the left middle cerebral artery. The walls of this vessel, in addition to being the seat of endarteritis, were separated by a hæmorrhage of considerable size, giving rise to a dissecting aneurysm. The presence of this clot between the elastic layer and the media had caused the complete occlusion of the vessel.

No accurate diagnosis of the nature of the cerebral lesions above described was made during the life of the patient, as nothing whatever was known of her history before admission to the hospital until the time of her death, when the facts incorporated in the clinical history were brought to light. The existence of localized catalepsy was of interest in connection with the lesion observed in the right internal capsule and caudate nucleus. This focus, which was older than the larger lesion on the left side, was unquestionably related to the first hemiplegic seizure noted in the clinical history. Perhaps it was also related to the catalepsy. This view was supported by the localization and persistence of the cataleptic rigidity. By far the greatest interest of the case lay in the peculiar form of arterial disease that had been described. The facts of the case and the microscopical appearances make it highly probable that the aneurysm had been operative in the production of the area of softening in the left hemisphere. It was believed that this was the first case of arterial occlusion from intra-arterial hæmorrhage that had been described.

Dr. **Fisher** said that he had observed many cases of endarteritis and softening among the aged in the city almshouse. He described the case of a woman who was dull and stupid, had had two attacks of aphasia, together with hemiplegia, and who was syphilitic. In this patient there was undoubted occlusion of arteries, with softening. He believed it would be impossible to distinguish between syphilitic and atheromatous disease of the vessels. He had noted extreme dullness and stupidity as quite characteristic of specific cerebral endarteritis. Often the pupils were irregular and sluggish in their reaction to light. He would consider the hebetude in Dr. Herter's case as due to the general condition of the vessels rather than to the lesion in the frontal lobe.

Dr. M. A. **Starr** asked the reason of the asymmetry of the hemispheres presented in the drawings.

Dr. **Herter** said that œdema of the left side was the cause of the disproportion.

A Contribution to the Study of Epilepsy.—Dr. **Frank H. Ingram** read a paper thus entitled. An analysis of 11,000 epileptic seizures, occurring in 110 patients, showed a predominance of diurnal attacks. The author said that faulty digestion, retained urine, and bad dreams were responsible for the nocturnal fits, and that vascular weaknesses and various so-called functional disturbances could be assigned as the exciting causes of most of the others. Sudden barometric and thermometric changes, particularly the former, were potent in producing epileptic explosions. Reports of three autopsies were given, two of which showed pathological conditions in the brain which would account for the convulsions. In one case, in which the spasms invariably began in the left lower extremity, aneurysmal vessels, subcortical, were found in the leg center of the right hemisphere of the brain. In a similar case, except that there was also a loss of hearing, there were fibrinous and caseous deposits and pressure degeneration about the leg center in the right hemisphere, with caseous granules in the sheath of each auditory nerve. The third case showed degeneration in the posterior horns of the lateral ventricles, which, the writer said, was the only case in his experience which had shown degeneration of the so-called epileptogenic zone. The indiscriminate grouping of epileptics was condemned and conservatism in the use of the bromides commended. The writer professed a fixed disbelief in a definite pathology for epilepsy, and cited several cases showing the marked difference in the character and the sequence of the convulsive phenomena.

Dr. **Starr** thought it interesting to hear of the apparent relation existing between changes of barometric pressure and the frequency of epileptic attacks. There was nothing which tended to produce epileptic seizures so much as variations in arterial tone, a fact which might possible serve to explain the matter of atmospheric influence. As regarded the pathology of epilepsy, there seemed to be no permanent lesion of the brain, and all such gross changes as had been described by Alexander, Meynert, and others, were not the direct cause of the disease. It was inconsistent with our clinical knowledge of the disorder to seek for visible pathological changes. The treatment of epilepsy differed much in its results in dispensary and in private practice, as in the former the patients were under such bad hygienic conditions. Contrasting the two classes, dispensary patients had six times as many seizures and were in other ways worse than private patients. There was much of value in the character of the aura. Dr. Ingram had reported aura in fifty per cent. of his cases. Undoubtedly the point of departure in epilepsy was cortical, and the character of the aura gave the seat of the discharge. If the aura was visual, as in many cases, the point of origin was in the visual area. If it was auditory, a rarer phenomenon, it began in the auditory area. Although most epileptic seizures were due to cortical disturbance, such discharge might take place from gray matter anywhere in the nervous system. It was unfortunate to condemn the bromides, for, although often injurious, they gave better results than any other known drugs, when employed under proper regulations.

Dr. **Herter** agreed with Dr. Starr that there was no relation between the pathological findings in epilepsy and the disease; but nutritive changes in an unstable cortex were probably the cause, apart from any gross pathological lesions.

Dr. **Fisher** thought that the bromides did not interfere much with bodily nutrition, as many patients grew fat on them. They seemed to become habituated to them.

Dr. W. W. **Skinner** described a case in which the cutting off of the bromides had resulted fatally. The patient, a young woman, had been for some time under bromides, when she was sent to an oculist to have her eyes examined. The latter found mixed astigmatism. The bromides were cut off. After three weeks she began to have attacks of *petit mal* very frequently; they became more and more frequent, until finally she sank into coma and died. A grain and a third of morphine, in four doses, hypodermically, made no impression upon the seizures. The fits invariably began upon the right side of the body, with deviation of the head to the left and of the eyes to the right. He thought there had been a cortical hæmorrhage.

Dr. **Leszynsky** said that the autopsy in cases of status epilepticus yielded no result. Patients died from heart failure or respiratory failure. He believed he had saved the lives of several such patients by venesection. He had used nitrite of amyl before he knew that it was harmful. Most drugs were of no service, with the exception of chloral, which, in forty- or fifty-grain doses, *per rectum*, had acted well. The indiscriminate use of the bromides in epilepsy was injurious, but their careful administration was productive of satisfactory results.

Dr. LYON had employed pilocarpine in a case with epileptic convulsions with excellent results. It produced first a profuse perspiration, after which the patient emerged from his attack. In asylums it was very common to withdraw the bromides, but he had never observed any harm follow. He had used pilocarpine also successfully in a case of hystero-epilepsy.

Dr. HERTER thought pilocarpine should always be employed with the greatest caution. He had seen it produce pulmonary œdema and death in two cases.

The PRESIDENT related the case of a barber who several years ago began to fall asleep when at his work, and was consequently discharged. The somnolent attacks had continued. He would fall asleep while walking or while riding on the platform of a car, and had frequent falls in the street, into gutters, on to the stove, etc., none of these things waking him up. There was no convulsion, nothing that one might call epileptic. Ten years ago he had weighed 150 pounds, now he weighed 270 pounds. Curiously enough, he was a sufferer from insomnia, not being able to sleep continuously at night for more than half an hour. Were these epileptic attacks? Was there any connection between them and the corpulence?

Dr. C. L. DANA had reported a case of epileptic morbid somnolence in a young woman several years ago. She had had at first only somnolent attacks, but afterward real epilepsy. He believed these somnolent seizures to be a form of *petit mal*. He had had a case similar to Dr. Jacoby's in conjunction with Dr. Hammond. The patient walked about while asleep, but did not hurt himself, and could be roused. The pupils were contracted as in normal sleep, and not dilated as in epilepsy. The trouble might be allied to narcolepsy.

Dr. INGRAM said that his routine treatment of the status epilepticus had been with sixty grains of chloral *per rectum* every two hours, and this had been very successful in the majority of cases. He had also seen good results and no injury from the use of pilocarpine.

The Gallup Lunacy Bill.—The committee, consisting of Dr. Peterson, Dr. Dana, and Dr. Parsons, appointed at the January meeting to examine the bill, submitted a report through its chairman, of which the following is an abstract:

"The measure has a large number of very excellent features, which, if they should become law, would prove of the highest advantage to the unfortunates whom they are intended to benefit. These are the sections relating to—

"1. The removal of the insane to asylums by attendants of the same sex.

"2. The admission and discharge of voluntary patients.

"3. The admission of emergency cases without papers of any kind for three days.

"4. The forbidding of the confinement of insane persons in jails in the same room with criminals, and any detention beyond ten days.

"5. The provision of home visits of indefinite duration at the discretion of the medical officers of the asylums.

"6. The boarding-out of suitable chronic lunatics in private families, at county expense, according to the systems in vogue in Scotland and Massachusetts.

"Aside from the invaluable particulars just described, there are several sections relating to commitment to which there would seem to be serious objections.

"(1) The method of commitment recommended is unnecessarily complicated. It may be carried out in country districts with a fair degree of patience and labor; but the difficulties of perfecting the process in the larger cities, and particularly in New York and Brooklyn, will be almost insurmountable. We are credibly informed, in fact, that some of our city judges who have seen the bill have expressed their unwillingness to have anything to do with a method involving so much of their valuable time, and will probably refuse to commit patients at all.

"(2) The position of Examiner in Lunacy will be degraded to a reward for political labors, since the appointment of the two physicians in each case is left to the discretion of the county officials or judge, and not, as now, to the wishes of the family concerned.

"(3) A majority of the patients will suffer harm from the visitation of two strange physicians and the superintendent of the poor, and from the visitation of an officer of the court with a notification of the legal proceedings about to be instituted.

"In contradistinction to these facts, we have abundant testimony to the effect that, simple in comparison as is, under the existing law of commitment, no person has ever been, through intentional wrong-doing, placed in an asylum as insane in this State, the present method affording ample protection.

"But it is possible to make certain improvements in the law now in force, not only in the manner of commitment, but also in the means of regaining subsequent liberty; and the suggestions your committee would submit are as follows:

"(1) There should be no material change in the present mode of commitment by two medical certificates, sworn to and approved by a judge of a court of record, as provided in the Laws of 1874.

"(2) Emergency cases should be received for three days without papers of any kind, as specified in the proposed new law.

"(3) The medical certificates should be more carefully and thoroughly made out, not only in justice to the patient, but also for the benefit of the asylum physicians, who now rarely receive many facts bearing upon the medical history of their patients or upon their mental conditions. To this end the form prescribed in the Gallup bill should be adopted. A few additional questions should be incorporated in the medical certificate for the purpose of determining whether the physicians have informed the patient of their intention of placing him in a hospital for the insane for treatment, in order to guard against the serious harm so often done to patients by removing them to an institution through deception. The State Commission in Lunacy seems to be invested with the power to prescribe the form in which the medical certificate should be made out, and a law regulating this would not appear to be necessary.

"(4) There should be a section in the law permitting any higher justice, upon application from any patient in an asylum, to appoint at his discretion a commission of two or three physicians to quietly examine said patient as to his mental condition, and, upon receiving their report favorable thereto, to discharge him from the custody of the asylum. By the Laws of 1889, chapter 283, section 22, the State Commission in Lunacy is empowered to make such regulations as to the correspondence of patients as would insure the proper carrying out of this law.

"(5) A clause should be introduced into the bill providing that nothing in the lunacy laws of the State shall be construed to interfere with the reception and treatment of acute cases of insanity in chartered general hospitals, in the same manner and under the same conditions as patients suffering from other diseases are there received and treated, provided such hospitals have suitable accommodations approved by the State Commission in Lunacy."

[Signed.] FREDERICK PETERSON, M. D., *Chairman*,
C. L. DANA, M. D.,
RALPH L. PARSONS, M. D.,
G. W. JACOBY, M. D., *ex officio.*

Dr. Starr expressed himself as thoroughly in sympathy with the criticisms and recommendations of the report. He moved that the report be adopted and printed, and that copies be forwarded to the Governor of the State, to the State Commissioners in Lunacy, and to such others as were interested in insanity laws.

The report was adopted, and the recommendations of Dr. Starr were ordered inserted.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of January 17, 1890.

Dr. V. P. Gibney in the Chair.

Congenital Talipes, Right Equino-varus and Left Calcaneo-valgus.—Dr. W. R. Townsend presented a case of this affection. The case was of considerable interest on account of its rarity. Mr. Tamplin had stated that out of 764 cases where the deformity was congenital there were only 15 in which there was varus of one foot and valgus of the other, and only 19 cases of calcaneus. Dr. Townsend said that this patient had been brought to him at the Hospital for the Ruptured and Crippled on December 23d, when only ten days old. It was the mother's second child, and the labor had been normal; there was no history of club-foot in the family. He had already commenced treatment of the right foot, and consequently the deformity was not so marked as when he had first seen the case.

Dr. A. M. Phelps said that this was only the second case of the kind he had seen; and, in connection with it, he desired to present a plaster cast of two feet removed from the womb of the mother after her death at the sixth or seventh month of utero-gestation. It showed equino-varus of the left and calcaneo-valgus of the right foot, and was an admirable example of the manner in which the deformity had been produced by the pressure of the uterus. There was no history connected with it beyond what had been stated. The original was in Professor Volkmann's museum at Halle, Germany.

Dr. John Ridlon remarked that the chief interest in this class of cases was connected with the subject of their causation. He had seen only one other case, which had occurred shortly after the publication of Dr. H. W. Berg's paper on this subject. This patient had had the same deformity, and, in addition, both hands had been clubbed.

The Chairman did not think he had seen more than three or four such cases in an experience of eighteen years. He thought that the retarded rotation theory, as explained by Dr. Berg, accounted very well for these cases.

Dr. A. B. Judson said, in regard to the foot affected with calcaneus, that, although at first sight it appeared to be a severe deformity, it was quite amenable to treatment, and cited a case published by Dr. Churchill, of Iowa, in support of this assertion, in which he had advised simple manipulations, and had made an appointment to do a tenotomy a month later. At the end of that time he had been surprised to find that the deformity had entirely disappeared. In another similar case reported by Dr. Prouty, of New Hampshire, the trouble had been entirely remedied by the same simple manipulations, so that when the child began to walk the foot was absolutely normal. A remarkable case had been reported by Dr. Gibney a few years ago to the New York Pathological Society, in which the calcaneus was so extreme that the digits had made indentations on the anterior part of the leg.

The Operative Treatment of Talipes Calcaneus Paralyticus.—The paper of the evening was read by the Chairman, who exhibited eight patients illustrating the advantages of the operation described in his paper. This operation was that which Mr. Willett, of St. Bartholomew's Hospital, had published in the St. Bartholomew's Hospital Reports in 1880. The technique was as follows: A large Y-shaped incision over the posterior aspect of the leg, at the lower fourth, the stem of the Y ending at the os calcis, the stem itself about an inch and a half in length, while each side of the V-shaped portion was about two inches and a half long. The incision exposed the sheath of the tendon. The V-flap was then dissected, the sheath opened, and the tendo Achillis raised from its bed by a curved director. A strong catgut ligature was passed through the upper portion of the tendon to serve as a means of preventing retraction after section; and the tendon was cut through obliquely, this section being made as oblique as possible. With the volsella each end of the tendon was grasped and the upper portion pulled down toward the os calcis, while the foot was fully extended and the knee slightly flexed. The tendon was sutured together with catgut, back and forth, with about three or four heavy sutures, the end of the V-flap was brought down to the end of the stem, and the edges were sutured, taking every alternate stitch through the tendon itself.

The aim was to convert the Y-shaped wound into a V-shaped cicatrix. It was better to use catgut altogether, in order that the wound might not be disturbed for three or four weeks. Dressings and plaster of Paris, which extended from the toes up to the middle third of the thigh, the knee being flexed to an angle of about 120°, and the foot extended to the full limit, completed the procedure. The operation practiced by the reader of the paper differed a little from that of Mr. Willett in the following particular: Mr. Willett used wire and exsected a portion of the tendon. The wire he used was merely for fastening the ends of the tendon together. The objections offered to his mode were that the wire cut through the tendon, and that one was in danger of removing too much tendon.

The paper was based upon an analysis of twenty-eight cases operated upon during the past six years. The results showed seventeen good, eight fair, and three poor. The term "good" was defined as a useful foot without any relapse after a sufficiently long time; ability also to walk without a brace or support of any kind. "Fair" was defined as a slight stretching of the cicatrix, but not enough to impair the usefulness of the foot. Shoes with the heel raised and a steel tongue were also required to make the gait satisfactory. "Poor" referred to those cases where the cicatrix had stretched and the deformity had relapsed. The general results, however, were very satisfactory. The time elapsing between the operation and the date of last observation was as follows: From three to twelve months, nine; from one to two years, fifteen; from two to three years, one; from three to four years, one; five years, one; six years, one. Sixteen healed by first intention, twelve by granulation. Of those healing by primary union, ten were good, three fair, and three poor. Of those healing by granulation, six were good, five fair, and one poor. In those where granulation took place the tendon sloughed in three instances, and a portion was removed through the wound. In no instance was a brace required, but particular attention was given to the building of the boot or shoe. The instructions were to have the heel raised at least an inch, to have a stiff counter, and a leather tongue re-enforced by tempered steel. The hopelessness of paralytic calcaneus was discussed at length; the difficulty of correcting the deformity by means of apparatus; the great strain on the spring itself; the frequency of breakages; and the satisfactory results generally.

Dr. Joseph D. Bryant said that he had been especially interested in the statement regarding the changes which in many cases occurred in the length of the new tissues which had been onnected by the operation with the tendo Achillis. The subect was of much importance as bearing upon the question of he behavior of cicatricial tissue elsewhere in connection with he repair of deformities of another kind; and, although it did ot follow that, because fibrous tissue in this particular situation etracted after the force had been taken from it, fibrous tissue vould do the same thing elsewhere, the subject became of mmense practical importance in connection with the recent nethods for the radical cure of hernia. If we studied the beavior of the cicatricial tissue of burns when put on the stretch, ve should find that it would stretch, but that when released it vould return to its former position, or even become more conracted. Such tissue might properly be compared to rubber hich was tireless, while the tissue concerned in the operation nder discussion might be looked upon as rubber which had ecome tired. He would like to know if one of the cases which howed such extreme loss of power was likely to be benefited y a repetition of the operation.

Dr. C. A. Powers was particularly interested in the subject f tendon suture of the hand and wrist, in which he had had a onsiderable experience. He had become convinced that carel antiseptic suture of these cases, with proper rest of the arts, yielded uniformly good results. Primary union seemed be a requisite for a good functional result in hand and wrist ases; for, when healing took place by granulation, the tendons ecame caught in the cicatrix and there bound. He should like know in what proportion of cases the author had secured rimary union, and how the result seemed to be modified when ealing took place by granulation.

Dr. R. H. Sayre had noticed that some of the patients exibited were able to move the heel independently of the long exor of the great toe, and he supposed that, as the paralysis ad been only partial, the shortening of the tendon had enabled e weakened muscles to act to better advantage. Such cases ight to be much benefited by the persistent use of massage d galvanism, and they presented a much more favorable field r operation than those in which the paralysis was absolute; r, under such circumstances, shortening of the tendon only sulted in the formation of an unyielding fibrous cord. The ogress of the deformity when untreated must depend largely on the amount of damage originally done to the spinal cord. e had seen patients with very marked cavus who, instead of alking on the bottom of the heel, walked upon the posterior rtion, which had in consequence developed an elastic buffer. e had hesitated to interfere, as such cases did not hold out uch hope of improvement, and the gait was much better than e appearance of the foot would lead one to suppose was posble. As regarded treatment, he favored the use of a brace milar to the one described by the chairman, or with an elastic ring to take the place of the gastrocnemius. Such an appliice would give the patient comfort, and enable him to move out with less of a wooden tread.

The results shown in the cases exhibited were exceedingly od, but he was surprised at the amount of stretching which e cicatricial tissue had apparently undergone. The usual plea ainst tenotomy was that the resulting scar tissue tended to ntract and reproduce the deformity. This, he thought, was a istake, for the tissue obtained after a subcutaneous tenotomy as not at all comparable to that obtained in an open wound the process of granulation. There should be no more secdary contraction after a non-suppurative subcutaneous tenotoy than occurred in tissues after aseptic healing by blood-clot. hatever elongation had occurred in the cases shown, in all obability it took place, not in the cicatrix, but in the muscular ers above, the paralyzed muscle being constantly antagonized a normal muscle and thus gradually stretched out.

Dr. Ridlon said that one of the patients exhibited had been seen by him last summer, and he had then strongly favored tenotomy on account of extreme equinus which then existed; but he saw that the foot was now in good position. In the mechanical treatment of this condition he had been accustomed to employ the apparatus with the "rubber muscle" at the back; but since Bernard Roth, of London, had published the description of his brace for drop-toe, with tempered spring at the back of the leg, he had considered that such an instrument, having a spring running from the garter line with a steel plate to the ball of the foot, was much better than those ordinarily in use.

Dr. H. W. Berg was inclined to take a gloomy view of these cases of poliomyelitis, yet he did not consider them entirely beyond help from neurological treatment. Were it conclusively proved that the nervous supply of the posterior group of leg muscles, for instance, was entirely derived from one level of the anterior gray horns in the spinal cord, or from one series of cells in the spinal cord, it was obvious that, if these cells had been entirely destroyed, any electrical treatment must of necessity be useless as regards restoring power to the limb. But it had not been proved that the nervous supply was derived in this way, and it was barely possible that a few cells, giving rise to fibers of any one nerve, had escaped the inflammation. The number of these nerve fibers remaining might be so small as to escape notice in an electrical examination, and yet be sufficient to exert an important influence upon the movements of the foot. Hence, if these healthy nerve fibers and muscle fibers to which they were distributed be stimulated by a galvanic current, they would take on a vicarious action under the irritation of the galvanic current, and would cause, even in old cases of poliomyelitis, as he had frequently observed, a decided improvement in the power to extend the foot. In his experience, fully ninety-five per cent. of the cases had been relieved, although none were cured. He did not think that even the most enthusiastic operators alleged that they did more than relieve their patients. A large number would certainly be benefited by the operation described by the chairman; but any operation including simply the soft tissues was hardly a philosophical one, and could not be expected to give as good results as one which would fix the bony tissues. It was evident that in the cases exhibited the scar tissue had stretched as the children grew older and the weight of the body increased. This result could be postponed, but not averted, by furnishing a support for the foot.

Dr. Judson said that the difficulty in walking experienced by these patients was due to their inability to use the anterior part of the foot, so that the toe could not be pressed forcibly against the ground; and hence they walked very much like one having a peg leg, or an amputation of the anterior part of the foot. It had been stated that the aborigines of this country were in the habit of performing Lisfranc's amputation upon their captives, who were thus able to work in the fields, but were incapable of rapid locomotion toward liberty. A patient affected with talipes calcaneus was in practically the same condition. The object of the operation described this evening seemed to be to restore some of the function of the anterior part of the foot, so that the patient in walking could bring the weight first on the heel and then on the toe; but it was not easy to understand how the operation could accomplish this, for it was essential that there be very firm union between the calcaneus and the upper extremity of the tibia along the line of the gastrocnemius. With one exception, the patients exhibited could not put their weight on the toe at the same time that the sound foot was raised from the ground; nor was it reasonable to suppose that they would retain for any great length of time the slight connection between these parts. He was inclined to think that a cicatrix resulting from primary union was less liable to contract than one which occurred after a long process of granulation. It was difficult to overestimate the strain which fell on the tendo Achillis. The great mass of the muscles of the calf gave an indication of this force. The foot might be considered as a lever of the second class, the fulcrum being at the toe, the weight at the ankle, and the power at the heel. The long and short arms of the lever were represented respectively by the portions between the ankle and toe and the ankle and heel, and the strain produced by the weight of the body was thus multiplied as it fell on the tendo Achillis.

He thought that much could be done for these patients by mechanical treatment, and the object of his brace was to transfer some of the weight of the body to the anterior part of the foot. In the brace formerly described by him there was a joint at the ankle to arrest motion at a right angle; but the brace had been rendered much more durable and equally efficient by the omission of the joint in the present instrument. The weight which naturally came on the plantar surface of the anterior part of the foot in a well person, with this apparatus came upon the anterior part of the upper portion of the tibia in the neighborhood of its tubercle; so that the patient first struck the heel, and then put the weight upon the anterior part of the leg in its upper portion, thereby decidedly improving the gait. The sensation was very much like that of kneeling, for the weight, instead of coming on the ball of the foot, as in the healthy person, came on that part of the tibia which took the weight when in the kneeling posture. These cases could not, of course, be cured by the use of such apparatus; but adult patients were often very glad to wear a simple and durable apparatus which improved the gait.

The speaker remarked that Dr. C. Fayette Taylor had once said that one reason for the muscular degeneration which occurred in these cases was that the weakened and half-paralyzed muscles, being compelled to endure such an enormous strain, yielded at once; but if they were relieved by means of an apparatus of some of this duty, they were less likely to undergo such degeneration, and therefore the chances were better.

Dr. Frederick Peterson agreed with the reader of the paper regarding the uselessness practically of the galvanic and faradaic currents in these old cases, for he did not believe that the current could restore destroyed muscle fiber or degenerated nerve fibers or cells.

Dr. H. L. Taylor said that, in considering tenotomy, one must remember that in most cases not only the muscle but the tendon itself was atrophied, so that it was at times a mere thread. These cases of calcaneus were exceedingly difficult to treat, and any real advance would be very welcome; but he considered that the mechanical treatment was fairly satisfactory as a palliative measure. We could retain the foot in a position of election for an indefinite period, and improve locomotion by enabling the patient to transfer the weight from the heel to the ball, not, of course, through the tendo Achillis, but by impinging on the upper end of the tibia by means of an apparatus. He wished to lay emphasis on the statement that calcaneus could usually be prevented from developing when these paralytic cases were seen sufficiently early. The foot could be held with absolute precision; and, although he had followed for a considerable time cases of paralysis of the posterior tibial muscles, he could not recall a single one in which calcaneus had developed under proper mechanical treatment.

Dr. Phelps said that in cases of flail foot with absolute paralysis he was accustomed to do an excision or a Pirogoff's amputation, which was a safe operation providing firm ankylosis could be secured. Unfortunately, this was not always obtainable in children. When the tendon united primarily, union took place by blood-clot, and the result was not cicatricial tissue, but a reproduction of the tendon; and therefore stretching could not take place in the tendon itself, but in the body of the muscle. The same argument had been brought forward against the open operation for club-foot, only it had been claimed that the cicatricial tissue contracted; but when healing by blood-clot followed that operation, the cicatricial mass did not contract, nor did he believe it yielded. From birth up to the third or fourth year, and even later, there was a development of the deformity, and therefore, in estimating the beneficial results from any special method of treatment one must wait a similar length of time before passing upon the result. He had been much interested in the chairman's cases on account of the candor with which they had been presented and the care exhibited in securing careful histories; but, until the ultimate results could be ascertained, he preferred to cut the anterior tendons when required and apply a brace similar to the one which had been presented; or a brace with a posterior rubber muscle acting on a lever attached to the sole of the shoe; and in special cases, either Pirogoff's amputation or excision.

The Chairman, in closing the discussion, replied *seriatim* to the questions that had been propounded.

He could not say whether a second operation in one of the cases would be of any benefit.

He had not entirely completed his table of results, and could only say that in about one half of the cases had primary union occurred, and that his analysis, as far as it had gone, failed to show much difference in the results dependent upon the method of healing. He had, of course, always aimed to secure primary union; but some of his best results had been obtained in cases in which the granulating process had been tedious, and even where some of the tendon had protruded and had sloughed away, or had required removal.

He was sorry that he was unable to furnish records of systematic electrical examinations in these cases; but in the hurr of hospital work this portion of the work had frequently bee omitted. He had, however, the report of an examination mad by Dr. M. A. Starr before the operation on the little boy wh had attracted attention by his ability to stand on his toe and o the ball of the foot. Dr. Starr reported at that time—two year ago—that the posterior group of muscles showed well-marke reaction of degeneration, and failed to respond at all to th faradaic current, and he gave it as his opinion that it was ver doubtful if recovery would take place. The chairman though that most of the gentlemen present would agree with him i saying that the patient now had considerable power in th posterior group of muscles.

In alluding to electrical treatment, he did not intend to disparage all such treatment, but simply to record his own disappointment with it in connection with confirmed cases of calcaneus. He believed with Dr. Berg that, if certain nerve fibe still remained intact, they could be developed by appropriat treatment. He was also willing to admit that an operatio which secured ankylosis or synostosis was capable of giving very useful foot; but, from what he had heard of the operatio there seemed to be good cause for doubting the permanency the results. Besides this, the operation was a much mo formidable one than that which he had described in his pape and it would often be impossible to secure the consent of t parents to perform it, while they would willingly agree to t other operation.

In regard to the mechanical points raised by Dr. Judson, must be remembered that, in addition to the gastrocnemi muscle, the perineal group and some of the interossei were al involved. In only one of his cases had he met with the ribbo like form of the tendon, and the result of this case is report is "poor." When this condition existed, the tendon must be brought further down, and particular care exercised in the process of suturing, aiming to have the tendon well imbedded in the V-shaped flap.

Intracapsular (?) Fracture of the Cervix Femoris.—Dr. Phelps presented a specimen that was apparently an intracapsular fracture of the femur. It had been removed from a man in the dissecting-room, who was noticed to have the legs flexed and abducted, and twenty or more sinuses, healed and unhealed, about the thigh, which had burrowed in every direction. Through a most unfortunate mistake on the part of those who secured the specimen, the soft parts were all carefully removed. The pus was stated to have come from a cavity behind the mass of new bone which was seen in the acetabulum; and the new joint was found to be perfect. When the specimen was exhibited a few evenings since before the Surgical Section, it was thought to be a case of old hip-joint disease; but it clearly showed, since sections had been made, that this was not the case, and was of peculiar interest as illustrating the utter impossibility of curing such a case by mechanical treatment. It was a strictly surgical case, and, unless the sinuses were followed up and treated by thorough curetting and free drainage with antiseptic precautions, the man must have died, as he did die, from amyloid disease of the liver and kidneys.

Dr. J. D. Bryant concurred in the opinion that this was a case of intracapsular fracture.

A Simple Method of preventing the breaking of Plaster and Wax Casts.—Dr. Phelps exhibited two casts so treated. He said that, in order to render plaster or wax casts almost unbreakable, it was only necessary to rub well the surface of the cast with plumbago, and then, by the process of electro-deposition, cover the whole surface with a film of copper about one millimetre in thickness. To illustrate the efficacy of this method, the speaker took one of the specimens—a large cast illustrating Dupuytren's contraction—and threw it violently upon the floor without its sustaining the slightest damage. The other specimen had already been shown at the meeting in connection with Dr. Townsend's case of club-feet.

Book Notices.

A Treatise on Materia Medica, Pharmacology, and Therapeutics. By John V. Shoemaker, A. M., M. D., Professor of Materia Medica, Pharmacology, and Therapeutics in the Medico-chirurgical College of Philadelphia, and John Aulde, M. D., Demonstrator of Clinical Medicine and of Physical Diagnosis in the Medico-chirurgical College of Philadelphia. In Two Volumes. Vol. I. Devoted to Pharmacy, General Pharmacology, and Therapeutics, and Remedial Agents not properly classed as Drugs. Philadelphia: F. A. Davis, 1889. Pp. xii–5 to 353. [Price, $2.50.]

The style of this volume is plain, clear, direct, and terse; every paragraph deserves careful attention and well rewards the reader. The authors are to be classed with those who study what they see, reflect upon what has been recorded, and deduce from the knowledge thus acquired inferences warranted by the facts. Nearly seventy-five pages are devoted to electro-therapeutics. This part of the work, published separately, would constitute the "good little book on electricity" that everybody is looking for and never finding. Oxygen treatment, hydrotherapy, the use of heat and cold, of mineral waters, of hypnotism, of suspension, etc., are carefully considered and duly weighed. There is no rubbish in the entire volume, which is suggestive in every way. It commends itself to the thoughtful and will be a valuable addition to almost any library.

A Text-book of General Therapeutics. By W. Hale White, M. D., F. R. C. P., Senior Assistant Physician to and Lecturer on Materia Medica and Therapeutics at Guy's Hospital. With Illustrations. London and New York: Macmillan and Co., 1889. Pp. xi–371. [Price, $2.50.]

The value of climate, compressed air, Oertel's method for the treatment of cardiac disease, diet, baths and other external applications of water, lavage, massage, the Weir Mitchell method, electrotherapy, metallotherapy, suspension, and hypnotism, all receive careful consideration and fair criticism in this text-book. The bibliography is extensive, mentioning the best-known works on each separate therapeutic agent. The book is suggestive and sufficiently conservative to be a safe guide in many emergencies. Of convenient size, it recommends itself to the busy practitioner who has not time to consult a whole library on every occasion, but who may readily do so without unnecessary loss of time, thanks to the list of books at the end of each chapter.

Massage and the Original Swedish Movements; their Application to Various Diseases of the Body. By Kurre W. Ostrom, Instructor in Massage and Swedish Movements in the Hospital of the University of Pennsylvania, etc. Illustrated. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. vi–9 to 97.

Every scientific book, great or small, on the manual treatment of disease is a well-directed blow to the self-made masseur or masseuse, who, let us hope, is destined soon to drop out of sight. The author of this little treatise maintains that massage and the movement treatment should be applied only by educated and properly trained persons, with due regard to the physician's directions; that the operator, if not a physician, should be of the same sex as the patient, with only two possible exceptions; and that there should be a place where skillful and trained operators may have an opportunity of passing an examination and of registering, thus protecting not only themselves and the medical profession, but the general public also. There are sixteen excellent illustrations, and there is much sound, scientific sense in the little book under consideration. It is clear, definite in its aim, and attractive in form.

An Introduction to the Study of Organic Chemistry. By Adolph Pinner, Ph. D., Professor of Chemistry in the University of Berlin. Translated and revised from the Fifth German Edition by Peter T. Austen, Ph. D., F. C. S., Professor of Analytical and Applied Chemistry in Rutgers College and the New Jersey State Scientific School. Second Revised Edition. New York: John Wiley & Sons, 1889. Pp. xxi–403.

The translator's constant thought of aiding the student to develop his mind, by putting before him matter for reflection, rather than the usual formulations to be committed to memory in an undigested form, has guided him in his selection of this text-book, of which he has made an excellent annotated translation. At the end of the study of each chemical group there is a retrospect composed of "detailed recapitulations of the facts considered, as well as a survey of the typical reactions and theoretical relations of the various classes of substances. Coming in this place, such information is understood and appreciated by the student, who has become acquainted with the compounds and, understanding the derivation of the individual members from each other, is prepared to take up generalizations." Natural laws have thus been followed in the construction of the book; the complex succeeds the simple, as stronger attractions overcome weaker affinities. Hydrogen is everywhere driven from its stronghold, replaced by more powerful substitutes.

With rhetorical force the laboratory solution of the mysterious workings of organic chemistry, of the laws governing the manifestations of the attractive power of the little polypoid arms with which, in spite of Professor Austen's protest, the average student inevitably endows the atom, is reserved for the appendix. There we learn by what right the molecule is formulated, also how its various constituents are weighed, measured, marshaled, disbanded, and reunited to form other compounds, taking such places in the new body as the chemist may have previously determined. Thus the relationship of any particular compound can readily be traced to the simpler bodies from which it is derived.

With the translator, we heartily desire to find Professor Pinner's book in the hands "not only of the professional chemist and student, but also of the physician, druggist, and chemical manufacturer."

Chemical Lecture Notes. By Peter T. Austen, Ph. D., F. C. S., etc. New York: John Wiley & Sons, 1888. Pp. ii–98.

The matter and the arrangement of this little book are such as to give no inconsiderable aid to the student of the systematic works on chemistry and to him who follows a course of lectures on that subject.

Chemistry: General, Medical, and Pharmaceutical, including the Chemistry of the U. S. Pharmacopœia. A Manual on the General Principles of the Science, and their Applications in Medicine and Pharmacy. By John Attfield, F. R. S., M. A., and Ph. D. of the University of Tübingen, etc. Twelfth Edition. Philadelphia: Lea Brothers & Co., 1889. Pp. xvi–13 to 770. [Price, $2.75.]

A work that has met with such general approbation as to require twelve editions in twenty-two years to meet the demand hardly needs to-day an extended review, or indeed any other mention than that of its additions. Thanks to these latter, it now embraces, aside from inorganic chemistry, including methods for both qualitative and quantitative analyses, the whole of the chemistry of the United States Pharmacopœia and nearly all that of the British and Indian pharmacopœias, together with a remodeled section on Organic Chemistry. The "Table of Tests" in the appendix is unusually extensive, and the numerous questions and recapitulations intercalated throughout the text prove how profound has been the author's desire to further, by every means in his power, the advancement of the student and to awake within him, as he himself states, the desire for diligent, thorough work, thoughtful and deliberate study, such as will fit him for his position in the world and kindle in him other ambitions than that of merely passing his examinations.

A Manual of Chemistry for the Use of Medical Students. By Brandreth Symonds, A. M., M. D., Assistant Physician to Roosevelt Hospital, Out-patient Department, etc. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. 154. [Price, $2.]

An unusual amount of valuable information is contained in this little book, the plan of which is well conceived and systematically carried out. All the various points of interest are touched upon with more or less emphasis, according to their practical utility. Whereas the diverse elements are dismissed without undue consideration or dwelling upon unnecessary details, water, fermentations, poisons in their medico-legal aspect, and clinical analyses receive such discussion as would enable the clinician to solve conformably any problem that would ordinarily present itself to him. If any adverse criticism can be made of the author's method of marshaling his divisions, it would be in regard to the intercalation of the chemical nomenclature between the chapters on non-metals and those on metals. The difficulties to the learner would seem thereby unduly and unnecessarily increased. No subject more than that of chemistry demands in its treatment the clear enunciation of the proposition, for pure mathematics is not more abstract than the intermolecular relations.

Outlines of the Clinical Chemistry of the Urine. By C. A. MacMunn, M. A., M. D. (Dub.). With Sixty-four Woodcuts and Plate of Spectra. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. xvi–254. [Price, $3.]

The author's fear of adverse criticism of his most excellent work seems to be absolutely unfounded. It would be well indeed if all physicians engaged in general practice, as he states himself to be, would follow his example in thoroughly investigating normal and pathological urine. It can not be doubted that this work, the result of Dr. MacMunn's desire to put into the hands of busy men a *résumé* of the principal facts of the classical treatises on the urine, is destined to render good service.

The plan of the book is a comprehensive one. The normal anatomy and physiology of the urinary system are first considered, as well as its functional oscillations when subjected to external influences as shown in the reaction of the urine, in its greater or lesser acidity or alkalinity, and in other objective variations from the normal. The origin of the various urinary constituents, nitrogenous and non-nitrogenous, normal or pathological, is carefully studied, and methods are given as well for their detection as for that of foreign substances accidentally contained in the urine, as the result of pathological changes or from having been administered therapeutically or with felonious intent.

BOOKS AND PAMPHLETS RECEIVED.

Staining and Permanent Preservation of Histological Elements isolated by means of Caustic Potash or Nitric Acid. By Simon Henry and Mrs. Susanna Phelps Gage, Ithaca, N. Y. [Reprinted from the Proceedings of the American Society of Microscopists.]

Electricity in Gynæcology. By A. D. Rockwell, M. D., A. H. Goelet, M. D., E. L. H. McGinnis, M. D., A. H. Buckmaster, M. D., A. Lapthorn Smith, M. D., Franklin H. Martin, M. D., G. Betton Massey, M. D., and Alexander J. C. Skene, M. D. [Reprinted from the Medical News.]

Transactions of the American Gynæcological Society. Vol. XIV. For the Year 1889. Philadelphia: William J. Dornan, 1889.

Syllabus of the Obstetrical Lectures in the Medical Department of the University of Pennsylvania. By Richard C. Norris, A. M., M. D., Demonstrator of Obstetrics, University of Pennsylvania. Philadelphia: W. B. Saunders, 1890. Pp. xv–17 to 154. [Price, $2.]

The Science of Metrology; or, Natural Weights and Measures. A Challenge to the Metric System. By the Hon. E. Noel, Captain Rifle Brigade. London: Edward Stanford, 1889. Pp. viii–83.

The Year-book of Treatment for 1890. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1890. Pp. viii–324. [Price, $1.25.]

First Annual Report of the State Commission in Lunacy for the Year 1889. Albany: James B. Lyon, State Printer, 1890.

Transactions of the Medical Association of the State of Missouri, at its Thirty-second Annual Session, held at Springfield, Mo., May 21, 1889.

On the Pathology and Treatment of Diseases of the Skin. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin. Third Edition. London: Henry Renshaw, 1890. Pp. xvi–607.

Death from Visceral Affections after Ovariotomy. By Henry C. Coe, M. D., M. R. C. S., New York. [Reprinted from the Transactions of the American Gynæcological Society.]

The Treatment of Fractures of the Neck of the Femur by Immediate Reduction and Permanent Fixation. By N. Senn, M. D., Ph. D., Milwaukee, Wis. [Reprinted from the Journal of the American Medical Association.]

Nineteenth Annual Report of the State Homœopathic Asylum for the Insane, at Middletown, N. Y.

A Successful Case of Spinal Resection. By Robert H. M. Dawbarn, M. D., with Neurological Notes by Landon Carter Gray, M. D.

Doctors and Politicians. By Robert H. M. Dawbarn, M. D., New York. [A Series of Letters reprinted from the Medical Record.]

On the Choice of Methods in the Treatment of Uterine Cancer. By Reeves Jackson, A. M., M. D., Chicago. [Reprinted from the Medical News.]

On the Healing of Aseptic Bone Cavities by Implantation of Antiseptic Decalcified Bone. By N. Senn, M. D., Ph. D., Milwaukee, Wis. [Reprinted from the American Journal of the Medical Sciences.]

A Contribution to the Clinical Study of Spontaneous Degenerative Neuritis of the Brachial Plexus. By William M. Leszynsky, M. D. [Reprinted from the Journal of Nervous and Mental Disease.]

Report upon the Prevention of Yellow Fever by Inoculation, made in Compliance with Instructions from the President of the United States, and in Accordance with an Act of Congress providing for the Civil Expenses of the Government for the Year ending June 30, 1888. Submitted in March, 1888, by George M. Sternberg, Major and Surgeon, U. S. Army.

Observations on Seventy-five Cases of Flat-foot, with Particular Reference to Treatment. By Royal Whitman, M. D. [Reprinted from the Transactions of the American Orthopædic Association.]

Practical Points in the Diagnosis and Treatment of Malaria in Children. By Hiram N. Vineberg, M. D., New York. [Reprinted from the Archives of Pædiatrics.]

Diphtheria and Diphtheroid. By C. Lester Hall, M. D., Marshall, Mo. [Read before the Missouri State Medical Association, May 21, 1889.]

Fever Thermotaxis and Calorimetry of Malarial Fever. By Isaac Ott, M. D. [Published by the Journal of Mental and Nervous Disease.]

A Case of Extra-uterine Pregnancy. Operation; Recovery. By L. S. McMurtry, M. D., Danville, Ky. [Reprinted from the Transactions of the American Association of Obstetricians and Gynæcologists.]

A Study of the Pathology and Treatment of Intrapelvic Inflammations. By L. S. McMurtry, M. D., Danville, Ky. [Reprinted from the Transactions of the American Association of Obstetricians and Gynæcologists.]

The Relative Importance of the Different Forms of Refractive and Muscular Error in the Causation of Headache; and the Position of Rest as a Cause of Strabismus. By F. W. Marlow, M. D., Syracuse, N. Y. [Reprinted from the Ophthalmic Review.]

Cholecystotomy: Report of a Case, with Illustrations. By Edwin Ricketts, M. D., Cincinnati, Ohio. [Reprinted from the Lancet-Clinic.]

Plasto-cosmetics in Surgery of the Face. By B. Merrill Ricketts, M. D., Cincinnati, Ohio. [Reprinted from the Lancet-Clinic.]

Practical Notes on Urinary Analysis. By William B. Canfield, A. M., M. D., Baltimore. [Reprinted from the Maryland Medical Journal.]

University of Toronto. Formal Opening of the New Building of the Biological Department, December 19, 1889.

Contributo allo studio della struttura e delle alterazioni extravasali dei globuli rossi del sangue. Nota del Dott. C. Bergonzini. [Estratto dalla Rassegna di scienze mediche.]

Researches of the Loomis Laboratory of the Medical Department of the University of the City of New York, No. 1, 1890. Pp. 98.

Report of the Proceedings of the Illinois State Board of Health, Annual Meeting, Springfield, January 30 and February 13, 1890.

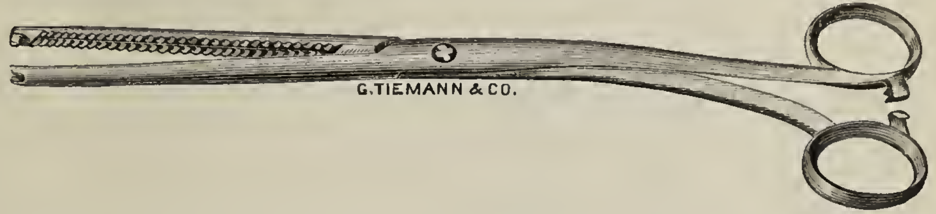
In Memoriam, James Bradbridge Hunter, M. D. By H. C. Coe, M. D., New York.

New Inventions, etc.

A VAGINAL HYSTERECTOMY FORCEPS.

By William H. Wathen, M. D.,
LOUISVILLE, KY.

A vaginal hysterectomy forceps should be so constructed that it may include in its blades the entire broad ligament with equal pressure, and absolutely control hæmorrhage, but it should be as small as is consistent with the purpose which it is intended to serve. Some of the heavy instruments devised cause too much local irritation and sloughing of the vagina and vulva, and some of the smaller ones do not insure perfect hæmostasis. Appreciating these defects, I had the Messrs. Tiemann & Company, one year ago, make a forceps that I think overcomes these objectionable features. The forceps is light, compresses with equal force at each end of the blades, and will include the ligaments so firmly that the danger of secondary hæmorrhage is wholly eliminated. The blades are deeply grooved in the center so that they are buried in the broad ligaments with less pressure than is necessary with the ordinary forceps. This insures permanent fixation, thereby absolutely controlling hæmorrhage.



Miscellany.

Substitution in Proprietary Remedies.—In Kansas City recently seven druggists were each fined $500 and costs for counterfeiting a trade-mark preparation the ingredients of which are well known. This suggests some thoughts on a subject which appears to have received but little consideration from the profession in general. Is it proper for the physician knowingly to countenance the extemporaneous preparation by his druggist of such remedies, the formulas of which have been given to the profession and approved by them? In other words, is it proper to allow the substitution of an extemporaneous preparation for one with which we are familiar, upon whose effects we have learned to rely? We believe that the question is very similar to the one of substitution in general, upon which there is little difference—even among doctors. It is reasonable to suppose that the company manufacturing a remedy of this kind, dependent as it is for its sale on the satisfaction which it affords to the profession and the approval which they in turn bestow on it, would ever observe the strictest precautions in the procurement and selection of the drugs and other materials used in its make-up, and would guard most religiously the utmost precision and regularity in the various methods and steps of its preparation in order to attain unvarying uniformity and reliability of effects. And it is perfectly patent that the wishes of the profession in this regard are much more liable to be fulfilled under these conditions than when the desired remedy is prepared under the vacillating conditions of all grades of drugs, degrees of skill, etc., to be found in drug stores. It is a fact familiar to all of us that the most ordinary prescription which we may compose, when filled at different pharmacies, or even at the same pharmacy at different times, may appear so different as to call forth the complaints of our patient, who never believes the repeated bottle is quite as good as the first one; indeed, he frequently thinks it is a different preparation, and is firmly convinced that the druggist has made a mistake and given him the wrong medicine. We all know how essential it is to have certain prescriptions prepared in a certain way, even aside from the manner in which the general rules of pharmacy would govern their preparation. We believe, therefore, that the substitution or proffer by the druggist of a home-made preparation of this kind for the one which is prescribed should be deprecated by the profession as emphatically as its cousin, the substitution of one drug for another.—*Weekly Medical Review.*

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending February 21st:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Feb. 15.	1,600,935	742	..	..	..	..	..	..	6	11	30	6	12
Chicago, Ill..........	Feb. 15.	1,100,000	499	..	..	..	..	..	..	40	4	23	..	5
Philadelphia, Pa.....	Feb. 8.	1,064,277	461	..	..	..	..	..	..	13	3	19	5	2
Brooklyn, N. Y......	Feb. 15.	852,467	350	..	..	..	..	..	..	4	9	21	..	3
Baltimore, Md.......	Feb. 15.	500,343	181	..	..	..	..	..	..	2	1	2	11	1
St. Louis, Mo	Feb. 15.	450,000	138	..	..	..	..	..	..	1	..	5	..	....
Boston, Mass	Feb. 15.	420,000	......	..	..	..	..	..	..	4	..	15	..	....
Cincinnati, Ohio.....	Feb. 15.	325,000	115	..	..	..	..	..	..	2	..	7	1	2
New Orleans, La.....	Feb. 1.	254,000	119	..	..	..	..	..	..	3	..	1	..	....
New Orleans, La....	Feb. 8.	254,000	122	..	..	..	..	..	..	1	..	..	..	....
Washington, D. C ...	Feb. 15.	250,000	104	..	..	..	..	..	..	2	..	..	..	....
Pittsburgh, Pa.......	Feb. 8.	240,000	99	..	..	..	..	..	..	7	1	4	..	1
Cleveland, Ohio	Jan. 25.	240,310	144	..	..	..	..	..	..	3	..	7	9	1
Cleveland, Ohio	Feb. 1.	240,310	144	..	..	..	..	..	..	2	1	4	6	3
Rochester, N. Y......	Feb. 15.	130,000	39	..	..	..	..	..	..	..	..	2	..	....
Providence, R. I.....	Feb. 15.	130,000	53	..	..	..	..	..	..	2	..	3	..	1
Indianapolis, Ind....	Feb. 14.	124,410	26	..	..	..	..	..	..	..	..	2	..	....
Toledo, Ohio	Feb. 14.	92,000	34	..	..	..	..	..	..	1	..	7	..	....
Fall River, Mass.....	Feb. 15.	69,000	37	..	..	..	..	..	..	..	..	..	..	2
Nashville, Tenn	Feb. 15.	68,531	20	..	..	..	..	..	..	1	..	..	..	....
Charleston, S. C......	Feb. 8.	60,145	31	..	..	..	..	..	..	..	..	..	..	....
Wilmington, Del.....	Feb. 15.	60,000	17	..	..	..	..	..	..	1	..	..	..	....
Manchester, N. H....	Feb. 15.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me	Feb. 8.	42,000	17	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.........	Feb. 15.	42,000	13	..	..	..	..	..	..	..	..	1	..	....
Galveston, Texas....	Jan. 31.	40,000	13	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Feb. 7.	40,000	5	..	..	..	..	..	..	..	..	..	..	....
Council Bluffs, Iowa.	Feb. 9.	35,000	6	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.......	Feb. 5.	32,000	3	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.......	Feb. 7.	31,000	6	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y...	Feb. 15.	30,000	5	..	..	..	..	..	..	1	..	..	..	....
Altoona, Pa..........	Feb. 8.	30,000	10	..	..	..	..	..	..	..	..	1	..	....
Auburn, N. Y........	Feb. 15.	26,000	12	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I........	Feb. 6.	22,200	4	..	..	..	..	..	..	..	..	..	..	..
Newport, R. I........	Feb. 13.	22,200	6	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.......	Feb. 15.	22,011	3	..	..	..	..	..	..	..	..	..	..	....
Keokuk, Iowa.......	Feb. 15.	16,000	5	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill......	Feb. 9.	16,000	2	..	..	..	..	..	..	..	..	..	..	....

The late Professor von Wahl, of Dorpat.—Dr. Samuel P. Duffield, the Health Officer of Detroit, has kindly sent us the following sketch of the late Dorpat professor of surgery:

"Professor von Wahl was called to the chair of surgery vacated by Dr. Ernst von Bergmann, now professor of surgery in the faculty of Berlin, and held that position up to the time of his death.

"Professor von Wahl was a fine operator. During the winter semester of 1885–'86 I was his guest and stood at his elbow whenever he operated for carcinoma mammæ or tuberculous disease of the knee joint. He followed strictly the antiseptic system. All instruments, the hands and clothing of assistants, and the skin of the patient were rendered aseptic prior to every operation. He was specially a student of the causes and results of fractures of the skull, and he had collected quite a choice lot of skulls illustrating the points he desired to prove. His operation for tuberculous deposits in the articulating surfaces of the knee joint was to dissect up a flap on the anterior surface of the limb, including the patella, and, bending the knee at right angles, excise with a saw the articulating surfaces far enough to be sure of getting rid of all deposits, and, if necessary, follow the operation with the use of a steel curette. The limb was placed in the straight position and the ends of the bones were allowed to unite, the limb being incased in plaster bandages. He was very successful. He was born of Russian parents, but studied in London, as well as in Russia. He spoke English, German, Russian, and Esthonian. His lectures were delivered in German. As a father in his cultured family he was all that could be desired.

"The University of Dorpat loses from her medical department a ripe scholar, a skillful surgeon, and a genial, noble gentleman. He always spoke well of Dr. Lidell, whose work he had read, and was ever ready to accord honor to American surgeons. He leaves his work unfinished, dying at the age of fifty-seven years, on the 17th of January, 1890. He was buried with honor from the University Church (Lutheran)."

ANSWERS TO CORRESPONDENTS.

No. 308.—1. Soak the catgut in oil of juniper for twenty-four hours, and store it in ninety-five-per-cent. alcohol.

2. There are several ways of preparing sponges. The following answers well when it is intended to keep them in a solution of carbolic acid or of corrosive sublimate: Soak them for three or four hours, or until effervescence ceases, in a mixture of two fluidounces of hydrochloric acid and a gallon of water; then wash them with running water until all traces of the acid are removed.

No. 309.—There is a school for the training of male nurses connected with Bellevue Hospital, foot of East Twenty-sixth Street, New York.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notifie of the fact at the time the article is sent to us; (2) accepted article are subject to the customary rules of editorial revision, and will b published as promptly as our other engagements will admit of—w can not engage to publish an article in any specified issue; (3) an conditions which an author wishes complied with must be distinctl stated in a communication accompanying the manuscript, and n new conditions can be considered after the manuscript has been pu into the type-setters' hands. We are often constrained to declin articles which, although they may be creditable to their authors, ar not suitable for publication in this journal, either because they ar too long, or are loaded with tabular matter or prolix histories o cases, or deal with subjects of little interest to the medical professio at large. We can not enter into any correspondence concerning ou reasons for declining an article.

All letters, whether intended for publication or not, must contain th writer's name and address, not necessarily for publication. No a tention will be paid to anonymous communications. Hereafter, co respondents asking for information that we are capable of givin and that can properly be given in this journal, will be answered b number, a private communication being previously sent to each co respondent informing him under what number the answer to his no is to be looked for. All communications not intended for publicatio under the author's name are treated as strictly confidential. We ca not give advice to laymen as to particular cases or recommend ind vidual practitioners.

Secretaries of medical societies will confer a favor by keeping us i formed of the dates of their societies' regular meetings. Brief noti cations of matters that are expected to come up at particular me ings will be inserted when they are received in time.

Newspapers and other publications containing matter which the pers sending them desires to bring to our notice should be marked. Me bers of the profession who send us information of matters of inter to our readers will be considered as doing them and us a favor, an if the space at our command admits of it, we shall take pleasure inserting the substance of such communications.

All communications intended for the editor should be addressed to hi in care of the publishers.

All communications relating to the business of the journal should be a dressed to the publishers.

Original Communications.

ON THE COINCIDENT GEOGRAPHICAL DISTRIBUTION OF TUBERCULOSIS AND DAIRY CATTLE.*

By E. F. BRUSH, M. D.,
MOUNT VERNON, N. Y.

If it can be shown by reputable authorities that the geographical distribution of inbred dairy cattle is coincident with the geographical distribution of human tuberculosis, there is a reasonable presumption that these phenomena stand to each other in the relation of cause and effect. I am well aware that the doctrine, started by Wells, that malarial diseases are antagonistic to pulmonary consumption, appeared so plausible on its first announcement that several other scientific men adopted the theory, and even at the recent congress for the study of tuberculosis, held in Paris, the doctrine was again advanced by De Brun, of Beyrout, and sustained by Picot, of Egypt, after it had been entirely abandoned by such men as Hirsch and others, who, ike him, had made the whole inhabitable earth their field of observation. This theory, like many another weak heory, was based on observations confined to a limited area and a limited length of time. To avoid this error, it has been my endeavor to extend my observations to every known inhabited portion of the globe, and to all periods of ime, recent or remote; for it is impossible to study a disease like tuberculosis without a proper understanding of all he changes that have taken or are taking place in each country, because tuberculosis is slower and more uncertain n its development than the other common contagious or nfectious diseases. One of the greatest disturbing elements I have found in the study of the geographical distribution of tubercular consumption is in the medical reports of the British army and navy, because, in countries enjoying an immunity from this disease previous to the invasion of hese forces, many of the invaders, after the invasion, suffer rom an attack, and often die from pulmonary consumption which they had acquired before leaving their native land; and consequently the statistics show deaths from pulmonary phthisis in the country, and thus rob it of its reputation or immunity, notwithstanding the fact that the natives hemselves retain their exemption. This fact may be lleged as a refutation of the popular theory of the day—that limatic conditions stand in a causative relation to tubercuar consumption, for many advocates of this theory imagine consistently, if the theory were correct) that where climatic conditions form an ætiological factor, all residents of a ountry enjoying immunity by reason of its climate would be exempt. This is not so. Only those who are not infected are exempt; consequently we must look for some source of nfection. Undoubtedly climatic and hygienic conditions avor the development of the disease in a human subject exposed to infection, and therefore the first and greatest question for us to answer, if we can, is, Whence comes the contagion? Is it indigenous in any of our domestic animals? No one denies, when a human subject suffers from an attack of glanders, that the disease was acquired from a horse; neither do we question the derivation of an attack of hydrophobia in a human subject; and we know that many other diseases are directly derived from some of our domestic animals. Now, if we were to take a single country like our own, and find that just in proportion as dairy cattle abound in a given community so does tuberculosis prevail, this might be a mere coincidence; but if we take the entire world and find the same existing connection between the two, these accumulated coincidences amount to a presumption that the connection is that of cause and effect. It seems to me very easy to settle the question whether the dairy cow does derive the contagion from us, as some thoughtlessly allege, or no. The only possible way in which a cow could acquire the contagion would be from its attendant, and surely, even if that attendant were affected, the only thing the cow could derive the disease from would be his breath or his sputa, and this in the proportion of one man to fifteen or twenty animals; the attendants, too, may or may not be affected, while in every dairy the percentage of animals affected by tuberculosis is from five to twenty-five per cent. Now, the danger the other way is straight and plain, because the human subject absorbs the entire animal, drinking its secretion while this lasts, and finally eating the animal up. Further, we find communities without pulmonary tuberculosis who have not dairy cattle, and we find also communities that have been exempt previous to the introduction of dairy cattle.

Here let me say that I wish, above all things, to avoid any appearance of having enlisted in the army of "alarmists." If the presence of tuberculosis were simply a danger that could not be avoided, and were to be threatening the entire human race, as many would have us believe, it would be better to let the question alone entirely. There are many people, both professional and lay, who can not take a calm view of a danger; they must either approach it blindfold or else must rush for it with screaming terror that alarms every one within their hearing. Thus we see at the present day sanitarians and health authorities urging the isolation of the unfortunate consumptive, the destruction of his clothing and everything connected with him, seemingly assuming that the human race itself develops the venom that is destroying it, like the scorpion that stings itself to death. I do not attempt to deny that it is possible for one human subject to convey the infection to another, but I think this danger very remote in comparison with the prime danger of bovine infection. If we take countries like Algiers and Egypt—where the tubercular bovine is still absent, but the human consumptive present, and the native population still exempt—we surely see that the danger of contagion from human to human is not imminent; while, on the other hand, if we take countries like Madeira, Australia, and the Sandwich Islands, we find very plainly that the introduction of inbred dairy cattle tubercularizes the natives. I do not mean to imply that every one who drinks milk from tubercular cows will become tubercular, for, if this were a fact, instead of the deaths from pulmonary consumption forming one seventh of the whole mortality, the great majority of civilized races would have become extinguished by the disease. I have known many cases of children and adults taking for years the milk of tubercular cows and yet exhibiting no symptoms of tubercular infection. We must always remember that some other systemic condition is necessary as well as the germ for the development of this disease; scrofulosis, temperature, certain hygienic or climatic conditions that tend to lower resistance, are all factors in the causation of a susceptibility to infection. This susceptibility, arising from any or all of the causes enumerated, may be present in some individuals in a community, and, unless the inbred dairy cow is a producer of food for that community, these cases, be they more or less numerous, will not suffer from tubercular consumption. There are localities with a rigorous climate, resulting from their altitude, where dairy cattle can not be closely inbred, because inbred cattle could not stand the severity of the climate, and they are not, by reason of their breeding, tubercular. Such animals are not deemed by the modern breeder as the best dairy animals, for, requiring, by reason of their vigor and robustness, more of the food that they consume for their own nutrition, they have less of this food available for making milk. In the Highlands of Scotland and the Hebrides, where these creatures abound, the countries are not known as dairy countries, neither are they tubercular. It is significant that in the great dairy countries, such as England, Ireland, and Denmark—in fact, wherever the dairy is one of the national industries—the prevalence of tubercular consumption is a settled fact, which requires no further consideration on our part. In those countries, however, where there is no settled dairy industry, and the habits of the people, are opposed to the care of dairy cattle, the prevalence of phthisis is rare or entirely absent. It is only in these countries that a doubt exists as to the extent to which phthisis occurs.

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* Read before the Medical Society of the State of New York at its ighty-fourth annual meeting.

Now let us look at China. Here is a nation peculiar, to our notions. The reigning dynasty and high officials are of Tartar blood; the bulk of the people are pure Chinese. Andrew Wilson, who made a trip through China and Thibet, and published his book in 1875, says: "It is very extraordinary that . . . the Chinese should so entirely eschew the use of milk in every shape; at Lassa the pure Chinese do not take any milk, and the reason they gave for not doing so was that milk made people stupid. The Chinese may have got this idea from the fact that the Tartars, who are necessarily milk drinkers and eaters of dried milk and buttermilk, are a very stupid people."* Pumpelly, who traveled extensively in China under the auspices of the government, says: "Great as is the variety of food in the Chinese cuisine, some things are missed by the traveler—such as bread, butter, and milk. A little milk is sold."† The same writer adds, respecting the city of Pekin: "During the winter months this city has no rival in the world in the abundance and variety of the game and domestic meats with which its market is stocked. It receives large quantities of good beef from Mongolia."* I have abundance of testimony to the same effect, as many travelers have written relating to this country. Of course, there is nothing in this that indicates how their cattle were bred, or how much milk they consumed, but this and all other testimony emphatically indicates that the pure Chinese, of which the poorer classes are entirely made up, do not drink milk, while the Tartars, the ruling and military class, do get milk and beef; and I can show from reputable medical authority in China that, of these two classes, the former are the non-tubercular when the disease shows itself in that country. Thus Dr. Wang, a Chinese physician educated in Edinburgh, where he had undoubtedly been taught that climatic, hygienic, and dietetic conditions were the causes of pulmonary consumption, writes concerning diseases of the chest in China as follows: "The rarity of consumption among the country people and the greater exemption from it of the laboring class in the city, notwithstanding that they are badly housed and badly fed, must be attributed to their exercise in the open air. . . . Still, I can not quite understand why phthisis is not more prevalent than it is among them, especially the country poor, whose food often seems not more than half sufficient to support life." In regard to Canton, Dr. Wang says: "Phthisis is tolerably prevalent, but by no means so common as in Europe and America."† Of course, Canton can not be looked at like the rest of China, for seaport towns are afflicted with imported cases even when the disease is not indigenous. Dr. Jamison‡ says: "The testimony of all foreign practitioners in China who have written on the subject is unanimous as to the rarity of phthisis originating here among foreigners; every instance of chronic phthisis which has come under my care has been imported." Thus the statistics of this city can not be included in the history of the disease in China. We see, then, that among the poorer class pulmonary consumption is absent or rare, while among the better class of Tartar Chinese phthisis is not an uncommon disease. Thus Surgeon-General Gordon dwells on "the frequent occurrence of phthisis among the better classes at Tien-tsin, especially among women."# Here, of course, are the classes that get the milk and the meat. It is very interesting to read the reports of medical men regarding phthisis in China, and the different reasons by which they endeavor to explain its rarity. Mr. Porter Smith says: "Supposing phthisis to be rare, it can not be attributed to the absence of a special tuberculiar diathesis among the Chinese"; and Dr. Reid, after enumerating the supposed causes of phthisis, says: "If consumption did not follow as a consequence of all this, we should have a result different from what has been observed in other parts of the world where like predisposing causes are found, . . . or that some other conditions exist that modify or neutralize them." The before-quoted Dr. Jamison says that bronchial catarrh is exceedingly common and often simulates phthisis.

Here, then, we have a country with two classes—one milk-drinkers and the other non-milk-drinkers—and medi-

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* The Abode of Snow, New York, 1875, p. 197.

† Across America and Asia, New York, 1870, p. 302.

* Across America and Asia, p. 274.

† Dobell's Reports, vol. iii, 1877, pp. 33, 34.

‡ *Ibid.*, vol. i, 1875, p. 283.

Ibid.

cal authorities have not been able to assign an acceptable reason for the prevalence of phthisis in one class and not in the other, where the commonly received predisposing causes exist to the greatest extent.

Let us now direct our attention to regions where cattle abound, but not as inbred dairy stock, and where, consequently, milk is not an article of diet. Such is South America. "In Colombia the practice of milking cows was laid aside owing to the great extent of the farms and other circumstances. In a few generations, M. Rollin says, the natural structure of parts, and withal the natural state of the functions, has been restored. The secretion of milk in the cows of this country is only an occasional phenomenon and contemporary with the actual presence of the calf. If the calf dies, the milk ceases to flow." * Holden,† in his interesting book on this country, says that butter is unknown, milk only occasionally used and only extracted from the cows when they have their calves with them, and always boiled. This author also adds, in his chapter on diseases in this country: "There is little or no consumption. I do not recollect of a single case." As to the Argentine Republic, Consul Baker, of the United States, writes in the Western Dairy Journal: "It may seem paradoxical, yet it is true, that, while the Argentine Republic contains twelve millions of horned cattle, it produces neither butter nor cheese; such a thing as a dairy farm is unknown; such a thing as butter-making, in the true sense of the word, is a myth; such a thing as a cheese factory, if we except a cheap curd produced in Goya, has never been attempted. In this immediate neighborhood you may or may not find milk enough for your coffee, but elsewhere no one, with rare exceptions, keeps a milch cow; butter, if used at all, has, until very recently, been brought from Italy; of late, unsalted butter, the work of Spanish Basques, near Buenos Ayres, has been finding its way to market. . . . Not long ago I visited a ranch stocked with fifteen thousand cattle, and we did not have a mouthful of butter for our bread, while our coffee was seasoned with condensed milk from Illinois." We find, from the writings of Mantegazza on the health of this country, quoted by Hirsch, that there has been, within the last fifty or sixty years, a diffusion of phthisis along the coast of this republic, principally among the negroes and mulattoes; but in the interior and mountainous parts there is an exemption. Of course, in the case of phthisis along the coast, unless the imported cases are separated from the indigenous cases, the value of this evidence has no weight in our argument. It might be noticed that the invasion of phthisis on the coast coincides very nearly with the independence of the country and the accompanying admission of foreigners, while in the interior, where the natives are more numerous, immunity from the disease prevails.

I have in a previous paper cited the facts relating to Ecuador, and the remarkable result that the natives, where they do not use milk, are exempt from pulmonary tuberculosis. I have also in a previous paper alluded to the absence of phthisis in Egypt, where the indigenous inhabitants did not make use of the milk of inbred dairy cattle. The conclusions I arrived at at that time were derived from my reading of the accounts of that country given by various travelers; and since then I have written to Dr. J. A. S. Grant, Bey, who has favored me with the following communication, dated September 3, 1889: "With respect to Egypt, we are almost exempt from tuberculosis unless among the black people and foreigners. The Copts and Arabs are remarkably free from phthisis pulmonalis. I think buffalo milk is the only staple of that kind supplied to the villages, but I know that in the large towns there are European cows." This shows plainly that the natives do not breed dairy cattle and are exempt from pulmonary tuberculosis, while in the towns it is probable that the European cows mentioned in the bey's letter supply the milk to the foreigners.

Like Egypt, all the rest of northern Africa seems to be exempt from tuberculosis. Thus regarding Morocco, a country to which I have not before alluded and which was thoroughly explored by Dr. Rohlfs in 1861, who adopted the habits and manners of the natives, acting as a physician both among the people and in the army, he writes in his book: "Diseases of the lungs are scarcely known in Morocco," * and in enumerating the prevailing diseases he omits pulmonary consumption or phthisis entirely from the list; and he also says "the animals of the Draa oasis are fine and similar to those in Morocco, such as the horse, ass, mule, and goat; cattle are not common. The sheep in the Ternate province are woolless." † He speaks only of sheep's milk as used for food in the country.

Taking a square of ten degrees of longitude and latitude, making the geographical portions nearly identical, we have in this square Morocco, Portugal, and Spain. Now, these latter countries were mostly in the possession of the Moors for centuries, and, although they are classed among the civilized races, there are many remains of Moorish customs and culture still surviving. They are an agricultural people, and the dairy business is one of the agricultural pursuits.‡ According to Brandt, quoted by Hirsch, consumption is prevalent in this country. This condition of affairs applies also to Spain, as these two countries are usually classed together. Now, it must be granted that the geographical differences between these countries and Morocco are not sufficient to account for the prevalence of pulmonary consumption in the one and its absence in the other, but the presence of dairy cattle in one and not in the other is probably the most marked and significant difference. This difference will be found everywhere in the world where cattle are bred for the sole purpose of producing milk or early matured beef.

I am very firm in my conviction that cattle can be bred in such a manner that they will be neither scrofulous nor tuberculous, and in these respects not dangerous to the human race. After due deliberation and serious study, both as a physician and as a cattle breeder, I am firmly of the

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* Prichard, Nat. Hist. of Man, London, 1843, p. 34.

† Holden, New Granada, New York, 1857.

* Rohlfs, Adventures in Morocco, London, 1874, p. 83.

† *Ibid.*, p. 348.

‡ Oswald Crawford, Portugal, Old and New, New York, p. 155.

opinion that the blessings conferred upon us by the bovine tribe far outweigh the burden of the disease which they have entailed on us. When I read of countries that have no tuberculous food-producers, and consequently enjoying a total immunity from this disease, I remember at the same time that they suffer from still more grievous afflictions, both from the lack of the food furnished us and from the presence of disease in some form derived from their own cattle. If it were impossible to improve our own domestic cattle in regard to their own and our health, I should, I repeat, be in favor of letting the matter rest as it is. Deeming it, however, quite possible to breed our animals without any scrofulous taint, and, in lieu of the burden of disease, assume the burden of a heavier financial expense, I earnestly urge a reform.

The foremost cattle breeders have aimed at producing an artificial animal, capable, when bred for beef, of early maturity and early fecundity; and, when bred for the dairy, all other considerations were made subsidiary to an abundant flow of milk. It would appear to these men abject foolishness to breed an animal for strength, health, and robustness with a smaller yield of milk. They would not deem it an improvement to breed an animal that did not mature early, and whose dam would not produce a calf till she was three years old. But only by this method can we stamp out tuberculosis in our beef and dairy animals, and I am convinced that legislative action will be necessary to keep the breeders in this line, for it is one of the hardest things in the world to upset a recognized commercial system. Thus the question is focused: "Are we willing to pay more for beef and dairy products, and throw off the incumbrance of disease, or let the matter remain as it is—an abundant supply of cheap milk and cheap beef?"

REMARKS ON
THE USE OF THE UTERINE CURETTE.*

By WALTER B. CHASE, M. D.,

BROOKLYN.

UNDUE prejudice, either the result of imperfect knowledge or conservatism, is, and will continue to be, a barrier to the free acceptance of well-demonstrated truth.

In the medical profession the same rule holds good. Distrust either of well founded methods, or distrust of one's own self to carry out such methods, often leads to results no less unsatisfactory than boldness without discretion. The question of intra-uterine medication as evinced by the discussion of this hour has not as yet been fully and authoritatively settled.

The topic to which I desire for a few moments to call your attention, while well defined in its limitations and uses, has not as yet received that general acceptance which its utility warrants and which it is destined to receive. It is not my purpose in the brief period of time at my disposal to attempt any exhaustive discussion of the uses of the uterine curette, but to urge its advisability in some important but diverse conditions, in the hope that many who from any reason have not acquainted themselves with its advantages may be induced to test for themselves its real utility.

I shall make no effort to differentiate as to what the exact conditions are under which the uterine curette should be used, but shall refer to two or three conditions under which its use is indicated; and I may be permitted to remark that the ordinary reasons which obtain with some as to the contra-indications of intra-uterine medication or intra-uterine instrumentation should not obtain here, and certainly do not in cases which are of puerperal origin.

First will be considered the removal of the placenta after miscarriage. Second, the conditions of puerperal septicæmia from retained placenta or decomposition of blood-clots *in utero*. Third, the scraping away of hypertrophic tissues of the endometrium following labor, either subsequent to miscarriage or labor at full term, as evinced by hæmorrhagia or metrorrhagia, etc. And fourth, the removal of hypertrophic fungosities accompanying so-called chronic endometritis not of puerperal origin.

The requirements to be observed in these several conditions are: First, a proper appreciation of the conditions warranting interference. Second, a strictly aseptic condition of the hands and instrument of the operator. It would appear that no comment need follow this simple statement. Any accoucheur or gynæcologist who exposes his patient to septic influences from contact with hands or instruments would be morally responsible for consequences. Third, a sufficiently patulous uterine canal to admit of the introduction of instruments with sufficient room for thorough irrigation and proper return flow of fluids injected.

Gentleness with thoroughness is a *sine qua non* to successful manipulation in these cases. One of the frequent conditions where the curette is most useful is in cases of miscarriage in the earlier months of pregnancy. The attendant who finds the fœtus has escaped may also discover that only a portion of the placenta has extruded itself through the external os. Hæmorrhage may or may not be present; if present and active, the need of immediate interference is the more imperative. Here the tampon has been advised and used with varying results, and, if successful, it is no guarantee against sepsis. If properly applied, it may arrest the hæmorrhage; but its proper application is about as difficult as an exploration and emptying of the uterine cavity with the curette. It is under conditions like this that the internal administration of ergot is resorted to with results so contradictory and unsatisfactory as to render it an agent unworthy of our confidence.

To attempt to control the hæmorrhage, the ergot having failed, the attendant may force his hand into the vagina, using his index finger as a curette, passed into the uterine cavity, and if the os is sufficiently dilated he may remove all the placenta; or more likely the fundus, which needs most attention, is just beyond his reach, and the work is imperfectly accomplished, leaving behind the dangers of hæmorrhage as separation takes place, or septicæmia develops as decomposition progresses. Here, with a patient in the Sims position and a Sims' or an Ehrich's self-retaining speculum *in situ*, the cervix is brought into view, and, being steadied by a tenaculum, a blunt curette can be used and every portion of the placental growth removed, after which a hot antiseptic intra-uterine douche should be used, preferably from a large fountain syringe at such a height from the patient as will cause such force of stream as the operator may desire. Ordinarily it is desirable the flow should be gentle, care always being taken to insure the easy return of the counter-current, and this should be continued until the returning fluid is no longer changed by its contact with the uterine cavity. Apart from the impression imparted to a sensitive hand in the use of the curette the subsidence of hæmorrhage ordinarily marks a properly completed undertaking. No great amount of skill or experience is required to detect with a touch of the curette the location and extent of the placental attachment, and its use is circumscribed to this area. The character of the material removed, together with the quantity, serves as something of a guide in limiting the use of the curette.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

Unless it is necessary to forcibly dilate the uterine canal for the purposes of exploration, to which I shall hereafter refer, the administration of an anæsthetic is not always needed. If the patient is excited or of a nervous organization or timid as to endurance of physical suffering, an anæsthetic may be used. If required, unless some contra-indication be present, chloroform is preferred. I recall an instance in one patient where, within the past nine months, I have had occasion to curette the uterine cavity three different times—once for the removal of placenta after a three-months' miscarriage, and twice for the scraping away of fungoid degeneration of the endometrium at an interval of four and five weeks, following a miscarriage of five months where the hæmorrhage was threatening, the patient becoming exsanguinated, rendering interference imperative for the safety of the patient, in which maximum doses of opium, our best and most reliable hæmostatic, failed to control the bleeding only temporarily. In neither instance was dilatation of the uterine canal required, the os being quite patulous. Here the source of the hæmorrhage was limited to the area of placental attachment. After each operation the uterine cavity was thoroughly and persistently douched with a three-per-cent. solution of carbolic acid of a temperature of 115° to 120° F., and so thoroughly was the hæmorrhage arrested and so completely were the mouths of open blood-vessels closed by the constricting effect of the hot water, that for a period of ten days, in each instance, there was not a drop of discharge from the uterus. I might add, as explanatory of the last hæmorrhage, that, in my judgment, it was due to the debilitating influence and succussion of the pelvic cavity induced by violent coughing from an attack of "la grippe" just as convalescence was established.

An offensive lochia is not a necessary concomitant of puerperal septicæmia (though usually present), and, unless the putrefactive element is evidenced by offensive odor, neither the curette nor the antiseptic intra-uterine injection, are with rare exceptions, indicated. The conditions which might render the use of the curette needful would be the decomposition of retained placenta or membranes *in utero*, or the similar behavior of blood-clots due to imperfect drainage or their coagulation and retention from any cause. In this state, when septic conditions are present, the same precautions should be observed as to the caliber of the cervical canal, and before any instrumental examination is made let the uterine cavity be gently but thoroughly washed with a warm or hot antiseptic fluid. Then, if evidence of decomposing material remains, let the cavity be scraped with a blunt curette, taking care that its form corresponds with the curves of the uterus, which can be ascertained by the passage of a delicate uterine probe. In cases of this nature great gentleness and circumspection should be exercised that no injury be inflicted on the tender tissues of the uterine cavity.

It is desirable to remove all decomposing material; if this is done it may, and probably will, suffice to arrest the further progress of the disease. Such a result would not, however, follow if the infection had passed beyond the superficial structures of the lining membranes of the uterine cavity, having been carried by the lymphatic vessels so that secondary foci of infection had been established, or if the uterine sinuses were involved. In the latter case, if the septic infection was present in the uterine sinuses, the condition would most probably have passed from septicæmia to pyæmia with the grave complications attending multiple abscess. It is in these conditions of septicæmia from intra-uterine decomposition of removable material that the curette is of such signal value, and it is in this class of cases I desire to urge its employment. If used with reasonable caution, it is not a dangerous expedient, but a safe and conservative procedure. The indications are simple and unmistakable. A decomposing foreign body is present, and its presence is the cause of danger.

If I appeal to the experience of my professional brethren in the treatment of this class of cases, I am confident that their experience will correspond with my own; that a single curetting, with proper douching, will often result in cure.

I desire to report two cases recently under my own observation which have a bearing upon this point, and which are not uncommon in my experience:

The first was that of a primipara, aged about twenty-four, whom I saw with a medical friend four days after a difficult labor which was terminated with the forceps, in which were developed chills, high fever, and offensive lochia. The symptoms pointed to decomposition *in utero*. After placing her in the Sims position, a careful examination revealed a uterus six inches in depth containing a mass of decomposing placenta, with some shreds of membrane which was carefully scraped away with the curette, and a hot antiseptic solution was carried to the fundus (while the curette was yet being manipulated) until hæmorrhage was arrested and the returning stream was uncontaminated. The temperature fell promptly, and, though there was some recurrence of the fever, she made a rapid recovery.

A second and quite unusual case of Mrs. M., a multipara aged forty-three years, my own patient, developed the seventh day subsequent to delivery at full term, every condition appearing normal up to this period, moderately rising fever, sweating, prostration, and offensive brownish lochia. During these seven days there had apparently been no post-partum hæmorrhage, but I was impressed with the belief that there were decomposing blood-clots *in utero*. An examination confirmed my suspicion. Placing the patient on her left side and exposing the cervix with an Ehrich's self-retaining speculum, without any assistance except that rendered by the nurse, no anæsthetic being required, I gently removed with a curette about a pint of broken-down blood-clots, highly offensive, and irrigated the uterine cavity as previously directed.

There were no further untoward symptoms, the lochia lost its septic character, and her convalescence was uninterrupted and satisfactory.

In conditions of septicæmia like those described I am unable to conjecture what other rational and effective method of treatment could be adopted.

I am perfectly confident I have seen in consultation in private practice within a few weeks two fatal cases of septicæmia following miscarriage of two and three months from decomposition of retained placenta which, in all human probability, might have been averted by the timely use of the curette. In one of these cases the curette was used, removing large quantities of broken-down placenta and blood-clots; but the systemic infection was great, the vital powers were exhausted, and the patient died thirty hours afterward. In the other instance no attempt was made to empty the uterine cavity of its septic contents, as the patient had a temperature of 105° F., pulse 160, and rapid respiration, accompanied with great exhaustion, a state which would contra-indicate any operative procedure.

If the instances I have related were isolated experiences, I should feel less positive as to their management.

There is one fact which my own experience confirms, but which I will not stop here to explain—viz., that puerperal septicæmia is far more prevalent in towns than in the country. The danger both from hæmorrhage and septic infection from the causes already discussed are so great, and the need of proper remedies so imperative, that nothing short of the most certain and effective methods should be adopted.

The measures recommended are so simple and so easily carried into actual use that every general practitioner will find their adoption not merely a matter of expediency, but actual necessity, and in their use will not only find them vastly superior to the tentative means so often followed as regards the safety of the patient, but that it will contribute to his own peace of mind in the consciousness of having neglected nothing which ample experience has demonstrated as of the highest value.

It may be asked whether the curette is advised in the removal of retained placenta at the time of labor at full term. Ordinarily, no. If proper time is given for normal uterine contractions to expel the placenta, associated with the use of well-recognized aids, it is better, if necessary, to gently introduce the aseptic hand for purposes of detaching the placenta, for at this stage the cervical canal is either dilated or easily dilatable.

Of the use of the curette in chronic disease of the endometrium little need be said.

Where fungoid granulations or mucous polypi are present, inducing menorrhagia or metrorrhagia, it is certainly indicated, and excellent results are matters of common experience.

Here the circumstances surrounding each individual case must determine the question of its applicability. The curette is not to be employed in the presence of chronic cellulitis or peritonitis, and, if its use is indicated within the limitations suggested, the risk of inflammation is very small.

In my individual experience I have, with a single exception, never seen any unpleasant consequences attending its use.

Last summer I had occasion to curette the uterine cavity in a case of menorrhagia, a month or six weeks after a miscarriage, for the removal of fungoid granulations, which was done with proper precautions.

The patient, a young woman of robust constitution, was enjoined strict rest in bed, but, feeling so comfortable, she disregarded my instructions, and, three or four days after the operation, went down stairs and out of doors. This reckless carelessness on her part resulted in a mild attack of pelvic cellulitis, which yielded promptly to appropriate treatment.

So far I have said nothing as to the methods of dilating the cervix before using the curette. It has been stated, on what appears as excellent authority, that a septic condition of the uterine cavity is always associated with an open cervical canal. While I am not prepared to contradict this assertion, it is usually true that no dilatation is required in cases of puerperal septicæmia attended with fœtal discharges.

In chronic cases—as disease of the endometrium either succeeding pregnancy or of non-puerperal origin—the necessity of dilatation may be present. At all events, if the curette is used, the os must be sufficiently open to admit the introduction of instruments and to provide for easy irrigation and subsequent drainage. To accomplish this, resort may be had to Hanks's graduated hard-rubber dilators, or an instrument of two blades, like Goodell's, introduced the length of the cervical canal, care being taken not to impinge on the uterine body, which are operated by a screw in the handle like that devised by Goodell.

Here at least one assistant is required, and a second is needed if an anæsthetic is administered. This must be done with strict aseptic or antiseptic precautions, and proper rest in the horizontal position enjoined.

As to the kind of curette used—several of which, together with a variety of dilators, are herewith presented—the individual choice of the operator may be exercised. It is, however, rare that other than a blunt instrument is required. I occasionally use one of copper, fenestrated preferably (silver-plated), and, while small enough to be easily bent with the fingers to the required shape or curve, it should be sufficiently large to resist any force which would bend it in the manipulation. With such a curette, varied in its curves as may be required, every portion of the uterine cavity, unless marked flexion is present, may be gone over, very much as in exploration of the bladder with a sound.

Generally, portions of placenta or fungosities on the fundus and convexity of the uterine cavity are best removed by drawing the curette toward the operator, and those on the concavity by the reverse motion.

The use of the antiseptic solution may be left to the choice of the attendant, as more depends upon the thoroughness of all the manipulation of the operation than to the composition of the irrigating fluid. If any mercuric solution is employed, it should be very weak, and care should be taken to see that it is not retained *in utero.*

I usually use a solution of carbolic acid of about three-per-cent. strength and hot. The injection may be thrown into the uterine cavity, either with a fountain or a Davidson's syringe, either directly from the nozzle of the syringe or through a large-sized flexible catheter, or a double cannula of sufficient caliber to admit of the passage of small clots or of the *débris* incident to the use of the curette.

On the whole, I prefer the use of a large-sized flexible catheter, so that the current may be directed to any desired part of the cavity, with the curette at the beginning of the douche inside the uterus, to aid in the removal of any loosened portions not previously separated by the curette and too adherent to be washed out by the irrigating current.

645 Marcy Avenue.

NASO-PHARYNGEAL CARCINOMA.

REPORT OF A CASE, WITH A CONSIDERATION OF THE TREATMENT OF THIS DISEASE.*

By SIDNEY ALLAN FOX, M. D.,

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That carcinoma of the naso-pharynx is a rare disease no one familiar with the literature of the subject will deny. In one of the most recent works, by an eminent specialist, on diseases of the nose and throat, we find only six authentic cases reported, and of these only one occurred in the exceedingly large experience of the author. By naso-pharyngeal carcinoma is meant any of the three forms of cancer—viz., epithelioma, scirrhus, or medullary cancer—having its origin in the naso-pharynx. In looking up the subject I have consulted the following authorities—viz.: Bosworth, Sajous, Seiler, Browne, and Mackenzie. I find nothing satisfactory except in Bosworth's book, and he devotes only a single chapter of four pages and a half to this subject. My excuse, then—if one be needed—for reporting the following case of primary naso-pharyngeal epithelioma is its rarity:

On October 2, 1889, Mr. J. M. called upon me with the following note from my esteemed friend Dr. George R. Fowler:

"*October 2, 1889.*

"Dear Dr. Fox—This will introduce to you Mr. M., who is suffering from a growth in the naso-pharynx. He has been under treatment elsewhere, but, becoming discouraged, came to me for the purpose of obtaining my judgment as to the speediest way out of his troubles. . . . The evident Eustachian trouble, I judge, is likely to result in the loss of his position, which adds to his anxiety. Pray take his case under your skillful care.

"Very truly yours, George R. Fowler."

Mr. M. was forty years old, was married, and a clerk by occupation. He was thin, nervous, and cachectic, the face presenting a peculiar doughy or putty-like color. He stated that he had pain in the top of the head and also frontal headache. His appetite was poor; he was unable to sleep at night because of an inability to breathe through the nose and the constant annoyance of mucus dropping into the throat. His hearing was very much impaired, and he complained of rumbling noises in the ears. He was at times diplopic. The odor from the naso-pharynx was fœtid in character, and this made the sufferer offensive to every one with whom he came in contact. The patient stated that he preferred death to his existing condition. An anterior rhinoscopic examination proved negative, but posterior rhinoscopy showed the post-nasal space plugged with a cauliflower-like growth. The lateral walls of the pharynx, as well as its posterior wall, were matted with the growth, as were also the choanæ and the spaces about the Eustachian orifices. There was no evidence of external or internal glandular involvement. As I had never seen a case like this before, I was considerably puzzled. I, however, removed with the post-nasal cutting forceps about an ounce of the mass, and sent a specimen of it to Dr. Eugene Hodenpyl for microscopic examination. He reported as follows:

"Laboratory of the Alumni Association of the College of Physicians and Surgeons, No. 437 West Fifty-ninth Street, New York, *October 21, 1889.*

"Dear Doctor: I have completed the examination of the specimen sent me on October 17th. A considerable number of the larger bits of tissue are blood-clots and shreds of mucous membrane. There are, however, a number of whitish masses which present on section the characteristic picture of epithelioma. These nodules, moreover, contain a large number of thin-walled blood-vessels, many of which contain blood in their lumina. The cells in the nodule are so arranged that I can not entertain the possible diagnosis of leukoplakia.

"I am yours sincerely, Eugene Hodenpyl."

Realizing that I had a very serious case on hand, I consulted Dr. Fowler. We agreed that we would best try Annandale's operation for removal of the growth. With this object in view, the patient was admitted to the Methodist Episcopal Hospital on October 24, 1889. For the following history and report of the case from that date I am indebted to my friend Dr. James S. Reeve, the house surgeon:

Patient has enjoyed good general health, although he has not been robust. Family history is excellent. Patient has never had any very serious illness. In the winter of 1887–'88 he was exposed to very bad climatic influences, being out of doors much in cold and rainy weather. His occupation at that time and for some time following was such as to require him to use his voice a great deal.

In November, 1888, he was much exposed to wet and cold weather, and this was followed by sharp pain in the ear, partial deafness, and a feeling as if his own voice was very loud. His general strength began to fail somewhat, and his nervous system to deteriorate. In April, 1889, he overworked greatly, and his physical condition grew still worse. At this time he began to be troubled very much with headache, especially in the day-time. He was also troubled with the earache above mentioned, with deafness, and with obstruction of the posterior nares. This has continued ever since. He has received a variety of treatments, including catheterization of the Eustachian tube, cauterization, etc. Examination previous to admission had shown a neoplasm occupying the lateral pharyngeal wall and naso-pharynx, blocking up more or less completely the posterior nares. A considerable mass was removed at one time, microscopic examination of which showed it to be an epithelioma.

In spite of all treatment, the patient has grown steadily worse, and he is admitted for removal of the growth at all hazards. Demonstration by Dr. Fox shows a large mass of new growth occupying the lateral walls of the pharynx and the whole naso-pharynx, extending well into the posterior nares.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

October 24th.—Admitted to ward on full diet.

29th.—Operation by Dr. Fowler. Annandale's operation was performed, the upper lip being reflected and a separation of the hard palate being made by sawing from the nasal cavity. It was found that sufficient separation of the palate could not be obtained because of its very narrow and peculiarly arched shape.

The soft palate being divided, the growth was removed with curved cutting forceps, the different portions of the growth being detected by the index-finger. The soft parts were sutured with catgut, bone wired.

30th.—Patient has reacted excellently from the operation. Had no pain last night. Nose irrigated with boro-salicylic solution.

November 2d.—Allowed farinaceous diet. Nose irrigated daily. The odor is quite offensive.

3d.—Allowed to sit up.

6th.—Allowed clothes.

10th.—Allowed restricted diet. Breathing is fairly good through both nares. Patient does not gain strength very rapidly, but otherwise is doing well.

14th.—There is considerable swelling about the eye and some tendency to strabismus. Nose is becoming closed, so that irrigation from nose into the mouth is impossible. Ordered solution of sulphate of atropine (two grains to an ounce) instilled into eye twice daily.

25th.—Patient is growing steadily weaker. There are evidences of a return of the growth. Ordered chloroform liniment for back, p. r. n., for muscular pain.

27th.—Ophthalmoscopic examination shows optic disc very greatly clouded except at lower and inner angle.

December 12th.—Condition has not materially changed since last note. Ordered liquor potassii arsenitis, five minims, every night; dilute hydrochloric acid, ten minims, thrice daily. Patient complains of insomnia.

18th.—Mouth-wash made of solution of permanganate of potassium. Nose irrigated daily. Patient grows steadily weaker. Is not able to sit up. Insomnia, anorexia, and general depressed condition are marked. Odor of breath is very offensive. Diet is made as nutritious and varied as possible. Patient does not complain greatly of actual pain.

22d.—Ordered spiritus frumenti, half an ounce, day and night. Tincture of digitalis, ten minims; sulphate of atropine, one one hundred and fiftieth of a grain every three hours day and night.

23d.—Patient has loss of power in left hand. Right side of face is swollen and puffy.

24th.—Failing steadily. Breathing very difficult. Pulse rapid. Patient semi-delirious.

25th.—Patient sank steadily all day, and died at 8.30 P. M. Pulse grew very rapid and feeble, but patient presented few symptoms beyond those of general failure of vital powers.

Autopsy, December 27, 1889.—Body emaciated. In and around the pharynx are growths of epitheliomatous character. Larynx, trachea, and œsophagus normal; blood-vessels of brain normal; œdema over convexities; pia normal. At the base of the skull in middle fossa is a loss of substance involving the body and portion of greater wing of the sphenoid bone and eroding the inner end of the petrous portion of the temporal, making an irregular opening about three inches in diameter. This space is distended with the broken-down tumor mass and clots, and leads directly into the naso-pharynx. The growth involves the left orbit, possibly also the right. On posterior surface of right lung is a little fresh fibrin; lungs œdematous; heart normal; spleen enlarged.

The report of this case is, so far as I have been able to ascertain, the only complete one in existence. By complete I mean that a microscopic examination of the growth established the diagnosis; that then an operation was done to remove the growth; and that subsequently an autopsy was performed.

The table of naso-pharyngeal carcinoma to date, according to Bosworth, to which I add my own case, is as follows:

No. 1. Reported by Durand-Fardel. The diagnosis was not established by microscopic examination. No operation was performed, but an autopsy was held. The tumor is reported as one of scirrhus and was probably of primary origin.

No. 2. Reported by Maisonneuve. The diagnosis was established; an operation was performed, but an autopsy was not secured. The growth was diagnosticated as being a carcinoma, and was probably of secondary origin.

No. 3. Reported by Lotzbeck. The diagnosis was established; operation not performed, but an autopsy was made. The growth is reported as carcinoma, and was probably of secondary origin.

No. 4. Reported by Flour. The diagnosis was guessed at, for no microscopic examination was made; no operation was performed and no autopsy made. The growth was regarded as a carcinoma, and was probably of secondary origin.

No. 5. Reported by Schmid. The diagnosis was made by microscopic examination; an operation was performed; no history of an autopsy. The growth was a primary small-celled medullary carcinoma.

No. 6. Reported by Bosworth. The diagnosis was established by the microscope; several operations were performed, but no autopsy was made. The growth was a "medullary cancer involving lymph tissue," and was of primary origin.

No. 7. Reported by Sidney Allan Fox. A microscopic diagnosis was made. Annandale's operation was performed, and an autopsy was secured. The growth was a primary epithelioma.

Prognosis.—The prognosis in such cases is, I believe, invariably fatal.

Treatment.—The only treatment that should ever be considered in this class of cases is as follows: Generous diet, tonics, disinfecting and deodorizing washes to cleanse and remove the fœtor, and a thorough removal, from time to time, of the growth with the post-nasal cutting forceps and wire snare. The operative part of the treatment can be rendered almost painless by the use of cocaine, and can be done as thoroughly and as radically, if not better, than can be accomplished by the numerous capital operations recommended and sometimes performed. The latter endanger the life of the patient and cause more or less mutilation; moreover, the loss of blood and the shock thereby sustained can ill be borne by the patient.

THE QUANTITATIVE DETERMINATION OF SUGAR IN THE URINE.

By CHARLES W. PURDY, M. D.,
CHICAGO.

I AM sure it will be generally admitted that the methods of quantitative testing for sugar in the urine which have heretofore been in vogue require remodeling in order to meet the practical requirements of those engaged in active practice. Most, if indeed not all, the tests brought forward thus far are either complicated and time-consuming, unstable, or inaccurate, and therefore very far from perfect for practical purposes. Thus the fermentation test requires twenty-four hours' time to determine the quantity of sugar present; and with all possible care and precaution the results are by no means accurate.

Fehling's solution—the one perhaps most generally depended upon—is notoriously unstable, and consequently requires to be freshly prepared in order to be trustworthy. But, even when freshly prepared, Fehling's solution has been by no means satisfactory in my hands. The precipitation of yellow suboxide of copper renders the solution, when testing, so turbid that it is impossible to determine the precise point when the blue color is all discharged. The method advised to overcome this difficulty, by adding the urine little by little and then waiting for the precipitated suboxide to settle, consumes a great deal of time, and, moreover, it only in part remedies the defect referred to.

Dr. Pavy suggested the addition of ammonia, which holds the suboxide in solution, and this very much improves the working of the test. Unfortunately, however, Dr. Pavy's solution is even more unstable than Fehling's, and it is only possible to use it a few times before it becomes useless.

The chief difficulty with both Fehling's and Pavy's test solutions is the fact that the tartaric salt which they contain is very unstable, and can not be put up in permanent form with strongly alkaline solutions of cupric sulphate. Now, the chemical principles upon which these tests are founded demand that some organic product should be present in the alkaline solution of copper, in order to prevent precipitation of the blue protoxide of the latter which would otherwise occur; and the tartaric salt usually employed for this purpose renders the solution unstable.

Acting in part upon the suggestion first made, I believe, by Schmiedeberg, that the substitution of pure mannite for the potassic or sodic tartrate renders the copper solution more stable, I have, by the addition of glycerin, which answers this purpose still better, constructed a formula for a test solution which is entirely stable, simple, and rapid in application, exceedingly accurate in results, and, on the whole, admirably adapted for clinical purposes. The formula is as follows: Sulphate of copper, 4·15 grammes; pure mannite, 10 grammes; caustic potash, 20·4 grammes; strong ammonia (sp. gr. 0·880), 300 c. c.; pure glycerin, 50 c. c.; distilled water sufficient to make 1 litre.

The solution should be prepared as follows: Dissolve the sulphate of copper in part of the water and add the glycerin and mannite. In another portion of the water dissolve the caustic potash. Mix the two solutions, and when cold add the ammonia. Finally, with distilled water, bring the volume of the whole to one litre and carefully filter.

The principle upon which the application of this test depends is the fact that a solution of cupric sulphate of definite strength, combined as in the formula, is reduced at the boiling point by a definite quantity of grape sugar, causing the complete disappearance of the beautiful blue color, and leaving a perfectly clear and colorless fluid as the result. Thus 25 c. c. of this solution are reduced by exactly one quarter of a grain of grape sugar. The test should be applied as follows: Into a four-ounce glass flask are poured 25 c. c. (f ʒ vj) of the test solution, to which are added 50 c. c. (f ℥ jss.) of distilled water, and the whole is heated to the boiling point over a spirit lamp. A pipette, graduated in minims and holding not less than half a drachm, is now filled with the saccharine urine, and as the test solution begins to bubble lightly the urine is slowly discharged from the pipette—drop by drop—into the test solution until the blue color completely vanishes and leaves the solution perfectly colorless and clear. The number of minims it took to discharge the blue of the test solution contained just one quarter of a grain of sugar. By multiplying this number of minims until the product is 480 (one ounce), the multiple thereof is the number of quarter-grains of sugar to the ounce, which, if divided by 4, gives the number of grains of sugar in each ounce of the urine submitted to the test. Any one may readily prove the accuracy of this test as follows: Bring 25 c. c. of the test solution in 50 c. c. of distilled water to the boiling point in a glass flask. Then fill the pipette with a solution of pure grape sugar in water of known strength—say eight grains to the ounce*—and as the test solution is slowly boiling discharge the sugar solution from the pipette into the boiling fluid drop by drop, when it will be seen that exactly fifteen minims of the sugar solution completely discharge the blue color of the test solution; therefore fifteen minims of the solution contained one quarter of a grain of sugar, the exact proportion of a solution of the strength of eight grains to the ounce.

Precautions advised.—In testing, the blue solution should be raised to the boiling point and kept *slowly boiling*, not *violently bubbling*; and the urine to be tested should be *slowly discharged* from the pipette, drop by drop, two or three seconds elapsing between each drop, in order that the precise quantity may be determined which completely eliminates the blue color of the test solution.

The advantages which I have found from this test are:

1. Its rapidity of application. As a rule, the quantity of sugar in a given sample of urine may be determined in from five to ten minutes.

2. Its accuracy. When sugar is present in the urine in the usual clinical range of from two to thirty grains to the ounce, the quantity may be determined within from one tenth to one twentieth of a grain.

3. Its perfect cleanliness and simplicity of application. No copper products cling to the utensils (as in Fehling's

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* Still better is the addition of eight grains of grape sugar to one ounce of normal urine.

test) or obscure the chemical reactions from view; and the apparatus is of that simple kind usually kept in the physician's office.

4. Its stability. This solution is quite stable, and, if the bottle containing it is corked to prevent the escape of the ammonia, it will keep almost indefinitely.

I shall have something further to say upon both qualitative and quantitative testing for sugar in urine in my forthcoming work on diabetes. In the mean time, as I have been repeatedly asked for my method of quantitative determination of sugar in the urine, the process is as above given.

163 State Street.

THE SAFE PASSAGE OF A SHARP PIECE OF GLASS THROUGH THE DIGESTIVE TRACT.

By WILLIAM H. FLINT, M. D.

Mrs. P., a young married lady, summoned me, in haste, on January 15th, because she had swallowed a sharp piece of glass. This piece of glass had become accidentally detached from the distal end of a glass medicine tube, had been sucked through the tube with the medicine without the patient's knowledge, and had been swallowed before the patient, having felt it in the throat, could take any measures to arrest its downward career. The size of the piece of glass and its shape were easily ascertained by an examination of the fractured tube. The length of the fragment was about a third of an inch and its breadth about an eighth of an inch. It was pointed at either extremity, and, being a segment of a cylindrical tube, was convex on one side and concave on the other. From an examination of the line of fracture on the tube, the edges of the detached piece were judged to be very thin and sharp. The glass had not caused great discomfort during the process of its deglutition, but had occasioned some pain, referable to the soft palate and to the lower part of the pharynx. These parts were observed, at my first examination, to be incised and slightly bleeding, but the glass was not to be seen. A short time before summoning me the patient had eaten a bowl of bread and milk, and only five minutes before my arrival had taken a powerful emetic. Having assured myself that the glass was not within reach of the pharyngeal forceps, I passed a soft-rubber stomach-tube into that viscus after obtunding the sensibility of the pharyngeal mucous membrane by spraying it with a two-per-cent. solution of cocaine hydrochlorate. No sooner had the tube entered the stomach than violent vomiting ensued. Encouraged to retain the tube, the patient heroically held it in position while the major portion of the contents of the stomach were rejected and caught in a jar.

The vomiting having ceased and the tube being still in the stomach, a rapid search was made in the rejected matter for the glass. This matter, which consisted chiefly of bread and milk, with a moderate amount of blood, was carefully strained through a fine sieve, but no trace of the missing glass was found. I next washed the stomach with quite warm water, until the latter returned perfectly clear, and then withdrew the tube. A thorough search for the fragment in the matter withdrawn by the tube was now instituted, but in vain. Thereupon the tube was passed a second time and the *lavage* was again thoroughly executed, but without result. Neither did the eyes of the tube, which was slowly withdrawn with a rotary motion, succeed in dislodging the glass. During the act of emesis the patient complained of a cutting sensation referred to the upper part of the œsophagus, and this feeling continued until about twenty-four hours after the glass was swallowed. Having concluded that the fragment was impacted in the œsophagus and that it would be injudicious to use a probang lest this instrument should force the pointed glass through the œsophageal wall, I ordered a glass of milk and Vichy-water every two hours, a large baked potato with butter every four hours, and half a cupful of flax-seed tea every two hours, so arranging the doses of flax-seed tea that they did not coincide with those of the milk and potatoes.

The patient suffered no inconvenience from her vitreous repast except the slight œsophageal pain already alluded to, which, twenty-four hours after the glass was swallowed, was felt to change its position suddenly to a point lower in the œsophagus and then to disappear, leaving only a little soreness in its place. This symptom was regarded as evidence that the offending glass had become dislodged from its first resting place and had passed into the stomach. The same diet was continued, and in the evening, about thirty-six hours after the accident, six teaspoonfuls of castor-oil were administered.

On the next morning there was an abundant fæcal dejection, which, however, contained no glass. The same treatment was therefore maintained, and a second dose of castor-oil was given in the evening, about sixty hours after the glass was swallowed. During all that day there was no sensation in the throat save that of slight tenderness and sensitiveness, and no pain or tenderness in the stomach or the intestines.

On the morning of January 18th, about seventy-two hours after the accident, the bowels moved freely and painlessly. On examination of the *dejecta*, which were mostly solid and coherent, the glass was found, unbroken, and impacted in the center of a fæcal mass of such firm consistence that considerable force was required to crush it and to liberate the fragment. Since her happy escape from her dangerous companion the patient has been perfectly well and has passed no blood. The slight wounds in the soft palate and in the pharynx healed quickly.

37 East Thirty-third Street.

SOME REMARKS UPON TEMPERATURE REDUCTION IN TYPHOID FEVER.

By C. S. BRADFUTE, M. D.,

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Since a definite explanation of fever has not as yet been furnished the profession by physiologists, it behooves the clinician to regard with interest any method that by practical trial has seemed to be efficient in combating this very troublesome and at times unyielding symptom. In typhoid fever we have an affection characterized by high temperature, the reduction of which often taxes the resources of the practitioner to the utmost; mainly because the remedies at hand for this purpose are so depressing in their action that they can not be given to the extent of producing their full antipyretic effect without assisting the *materies morbi* in weakening the strength and vitality of the patient. In comparing the pathology and symptoms of enteric fever with the known physiological actions of such antipyretics as antipyrine, acetanilide, phenacetin, resorcin, etc., we find a remarkable similarity. In the case of these antipyretics small doses act as stomachic tonics; they destroy or inhibit the microbes of fermentation and promote digestion. But large or antipyretic doses, in addition to the above effects, which are very good as far as they go, are apt to disagree with the stomach, causing nausea and vomiting—results greatly to be deplored in a sensitive typhoid stomach. Upon the heart and circulation they are profoundly depressing. The heart becomes weak, rapid, and in some instances irregular in action. The respiration is weakened, shallow, and often of a jerky character. After a short period of preliminary stimulation the vaso-motor nervous system is paralyzed, the peripheral vessels dilate, and exhausting sweats occur, accompanied by chilliness and a subjective sensation of great weakness. The action on the blood is pre-eminently that of a destructive agent. The "ozonizing function" of the blood is greatly impaired, which, while limiting oxidation and hence heat production, also interferes with the metabolism of the tissues. Upon the kidneys a deleterious action has not as yet been made out, but, from their chemical composition and the fact of their elimination through these organs, it is fair to assume that their influence here is not beneficial.

Now, on theoretical grounds, in the light of medical logic, a heat-reducing agent producing such a train of symptoms would manifestly be contra-indicated in such physical conditions as those that are present in typhoid fever, and in a large hospital experience the writer has found this to be an actual fact. He has given these agents repeatedly in typhoid fever to reduce hyperpyrexia, and in no case does he remember them to have been followed by beneficial results. The temperature came down, it is true, but at the expense of a vast amount of physical energy, and it nearly always rose again as soon as the drug was eliminated. In two cases he noted protracted convalescence followed where these agents had been freely administered. In some instances where the temperature reaches 106° to 107° F. it becomes necessary to reduce it as soon as possible, or irreparable damage may occur before a slowly acting antipyretic measure has time to produce the desired effect. In such cases an agent like antipyrine can be properly given; but it may be observed, in passing, that a typhoid temperature of 107° is seldom followed by recovery under any treatment.

Now, the same end, the reduction of the fever, can be attained more satisfactorily and more logically by hydrotherapy properly applied, because it is tonic and restorative—effects to be desired in all stages of typhoid—and it accomplishes the reduction of the fever in a normal way; that is, by heat radiation and by increased nutrition induced by a more rapid circulation, thereby enabling the system itself to combat the morbid process which is keeping up the temperature. Let us glance at the physiological changes produced in the system by the external application of cold in the form of cold water: Slight chilliness, contraction of cutaneous vessels, short and jerky respiration for a moment or two, increased action of heart, stronger pulse, sensation of better feeling, and increased muscular activity, followed by a general feeling of surface warmth and increased strength, stronger cardiac contractions, more rapid circulation, regular, deep, and easy respirations, abated sensation of feverishness, improved appetite, and a general bodily calm which frequently induces sleep. And with this occurs the prime effect of which we have been speaking—the decided fall of the temperature. Compare this with the changes produced by the antipyretics mentioned above. It needs no comment. Brand's method of applying hydrotherapy is inapplicable in private practice, and it is doubtful if the reducing of a patient from a state of hyperpyrexia to a "shivering and chattering" condition by a prolonged cold bath is justifiable therapeusis. The simplest method and the one with which the writer has had entire success is that of "cold sponging"—the application of simple cold water to the whole surface of the body by means of a large soft sponge, as is now generally practiced in most American hospitals. This may be done five or six times daily. If it should not succeed, the ice-pack is indicated; but the writer has never had occasion to resort to this resource in enteric fever. Cold sponging has been objected to on the ground that after its use there is frequently a rise of temperature. This objection is fallacious, as the apparent rise in temperature indicates that the patient retains sufficient strength and vitality to respond to the stimulation, and the overheated blood that has accumulated in the larger vessels is driven to the periphery and its heat dissipated by radiation—a result that would show a rise in the surface temperature by a clinical thermometer. If the temperature is taken again after the lapse of two or three hours, it will generally be found to have fallen from one to three degrees below the original height. In a simple case of uncomplicated typhoid fever the writer adopts the following rules regarding hydrotherapy: The patient is sponged with tepid water, containing a little alcohol, twice daily, morning and evening, irrespective of the temperature. If the temperature should reach 104°, simple cold water is substituted, and the patient sponged every half-hour or hour until the temperature falls. It is not necessary to employ antipyretic measures unless the temperature rises to 104°; below that point Nature is fully able to combat it herself. This simple method of reducing the fever has been uniformly successful in the hands of the writer, and he believes, when properly applied, it never fails. Cases with ugly complications are, of course, to be excepted. It may be added that the pleasant sensations and feeling of well-being which occur in a fever patient after a cold sponge bath introduce a psychical element which is not without a favorable influence in the course of the malady.

Orange-Juice for Influenza.—Dr. C. de Lacy Evans, late surgeon, Gold Coast of Africa, writes: "From what I have witnessed on the Continent and in London, the present epidemic, which is causing so much consternation, does not appear to be true influenza. Some of the worst cases remind me of a disease I have seen some years ago among the natives of the swamps of the Niger, which in them often develops into fatal inflammation of the lungs. Irrespective of disinfectants and inhalations there is a simple, effective, and real remedy—namely, the juice of oranges in large quantities; not of two or three, but of dozens. The first unpleasant symptoms quickly disappear, and the acid citrate of potash of the juice, by a simple chemical action, decreases the amount of fibrin in the blood to an extent which prevents the development of pneumonia. The conditions most favorable to outbreaks of this nature are an excess of moisture accompanied by a diminution of atmospheric electricity. At a not far distant date, when electricity will be used largely for lighting, motor, and other purposes, scientists will require a new nomenclature and treatment for new diseases now in process of evolution."—*British and Colonial Druggist.*

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THE CHOICE OF AN ANÆSTHETIC.

Dr. Frederic Hewitt, in an article published in a recent issue of the British Medical Journal, calls attention to the importance of that most neglected branch of the subject of anæsthesia and anæsthetics—the intelligent adaptation of the anæsthetic used to the case in hand by the surgeon, in place of following a routine practice of using the same agent to induce anæsthesia in all cases in which it may be deemed advisable—and gives in tabular form the conclusions anent this question drawn from his observations during several years of experience as anæsthetist to two of the London hospitals and in private practice. The points to be considered in choosing the anæsthetic agent best suited to the requirements of a given case he states to be as follows: The length of time during which the anæsthesia is to be maintained; the nature of the operation to be performed; certain procedures involved in the operation which may affect the administration of a particular agent or the agent itself; and the presence of some morbid or other condition in the patient which may contra-indicate the use of certain anæsthetics. He formulates the indications for and the contra-indications to the use of the following anæsthetics: nitrous-oxide gas, ether, chloroform, and the "A. C. E." mixture, giving the preference to ether for general use, but sharply defining the limitations of their use. Nitrous-oxide gas is used for very brief operations, except in the cases of very young or very old subjects or when disease or great impairment of the organs of respiration is present, and also as a preliminary to etherization. Ether should not be employed in cases such as the foregoing, or in those in which renal disease exists; in those involving the abdominal section; in operations about the upper air-passages in which the actual cautery is employed, or when the site of operation is such that the continuous administration of ether is rendered impossible, and the time required is greater than the ether coma would last without further administration, or when a preliminary tracheotomy has been performed. Chloroform, preferably diluted with alcohol, or the "A. C. E." mixture is to be used in cases in which ether is contra-indicated, but not when cardiac disease is present or in cases of shock or collapse. Pure chloroform is evidently regarded by Dr. Hewitt with wholesome respect, as he limits its use to the utmost extent. It is to be given during labor as an anodyne, but is to be replaced by ether when complete anæsthesia is required for the use of the forceps or for other obstetric operations. Its use, or that of the A. C. E. mixture, is preferred in cases of abdominal section, by reason of its slighter tendency to cause retching after the operation, thereby making the danger of secondary hæmorrhage from torn adhesions, etc., less than in cases in which ether has been used.

Dr. Hewitt's complaint regarding the neglect which has been shown by surgeons in regard to this question of selection of anæsthetics is a just one, as heretofore almost all the sometime heated discussions regarding the relative merits of ether and chloroform that have been held have concerned the habitual use of one or the other agent, rather than the limitations by which the use of each should be regulated. It is but very recently that any actual attention has been paid to the existence of renal disease as a contra-indication to etherization, and the practice of by far the greater number of surgeons has been, at least in the hospitals, to leave the matter of anæsthesia to the house staff, only interesting themselves in the question of the advisability of giving any anæsthetic at all, or when the anæsthetist did his work so badly as to interfere with that of the operator. The agent to be used has been rarely anything more than a factor in a regular routine course of preparation of a patient for an operation—of no more variability than the practice of shaving the hair from the skin in the vicinity of the spot to be attacked by the knife—and the question as to *what* was to be given was entirely forgotten in the attention paid to the manner in which it was given. How many brilliant surgical triumphs have been made inglorious defeats by the treachery of an interloping uræmia, which has upset all the well-laid plans which seemed to make the result a certain victory—assassinating the good fame of the operation after it had been all but vindicated! And yet the albuminuria which had been detected prior to operation was a danger signal that was either misunderstood or ignored, and ether was given according to the time-honored routine without a thought of evil consequences.

While this indorsement by a British authority of ether as the safer and preferable anæsthetic for general use must be a source of gratification to those American surgeons who have for so long a time upheld its superiority to chloroform, championed by our transatlantic brethren, let them not forget that, under certain conditions, the danger of sudden death as a result of acquaintance with one of the well-known eccentricities of the smooth-mannered chloroform is as nothing in comparison to that of trusting to the brusque frankness of the rough-and-ready ether. The former is a polished villain, that, when on mischief bent, daintily and neatly bags his game with a thrust of the gentlemanly rapier, making no mess and causing no unseemly noise or struggling. The latter is a rough diamond, that, in perfect good nature, may indulge in rough horse-play, and fall too heavily against an already bruised reed, breaking it as a result of its own inability to withstand the shock, but with no malicious intent. Let surgeons now understand the fact that the particular anæsthetic to be used in any operation is to be selected with as much care as the particular antiseptic is chosen, if not more; and, when this is done, the faint aroma as of an exact science which may now and then be observed to cling about the robes of surgery will be strengthened and made more permanent. Dr. Hewitt has done well in thus providing a candlestick for the light emanating from the consideration of this matter, so that it may no longer be obscured by the bushel of glittering generalities under which it has been hidden by most authors in their lucubrations on the subject. The meretricious glare thus substituted for the light which alone can make clear the course to be pursued has deceived many an earnest investigator, and has led him to deem of the question as to which anæsthetic is the one to be employed habitually as the only one to be decided, or perhaps the question as to which may be most convenient to the surgeon, rather than the one best suited to the requirements of the case. Too much stress can not be laid on the necessity of the exercise of more care on the part of surgeons in this matter; and they should remember that the time to talk of the manner in which an anæsthetic should be administered by others does not arrive until after a proper selection of the anæsthetic to be used has been made by themselves.

WHAT IS CONGESTION OF THE LUNGS?

There is no expression among the many used by the members of our profession that has for so many years occupied a position of usefulness as the word congestion. To the laity it represents a comfortable kind of disease which can be handled with safety by the attendant, and from which recovery is more than probable. When we read in the newspapers that a certain public person is confined to his house by a mild attack of congestion of the lungs, we often wonder what the real condition of the lungs is. Is it pneumonia, or a passing bronchitis, or the result of cardiac or renal changes? We often hear the question, "Is it congestion or inflammation of the lungs?" And with a sigh of relief sometimes the patient's wife receives the intimation that the man who is lying in the next room with a stitch in his side, rapid breathing, and a temperature of 103° F., is only suffering from congestion so far, not inflammation. And there are cases where a medical man speaks of having so treated a case as to prevent congestion going on to inflammation.

In a recent number of the Lancet, Dr. Wilks, of Guy's Hospital, publicly asks the question, What is congestion of the lungs? And he goes on to say: If by congestion of the lungs is meant pneumonia, then let a spade be called a spade, and in the name of pathology, of honesty, and of common sense let the term congestion be discarded. He thinks that the upper classes have their lungs congested, while those who occupy a lower place in the social world have the same disease diagnosticated as inflammation, or pneumonia. But this is not strictly true. It all arises from the fact that with our hospital patients we are not subject to much questioning, and consequently are not obliged to give a diagnosis to suit the popular standard of comprehension or to disguise a dangerous disease under an innocently sounding stage name.

The use of all these pet names for disease is dishonest. By relieving the fears of a timid family, by calling pneumonia congestion of the lungs, and scarlet fever scarlatina, we are guilty of falsehood, and we expose our patient to risk by not representing fully and honestly the danger to which his life is exposed. The public should be made to understand that scarlatina is scarlet fever and that a "diphtheritic sore throat" is diphtheria. Some timid mothers will be frightened, it is true, but perhaps some children's lives will be saved.

We are sorry to say that possibly there is another *raison d'être* for these vague and unmeaning expressions. As charity covers the multitude of sins, so the use of vague terms covers up a multitude of bad diagnoses. The practitioner who does not know whether his throat case is one of follicular inflammation of the tonsils or diphtheria places himself in a secure position on the fence of doubt by calling it one of diphtheritic sore throat, and can bring himself with ease and comfort to a safe diagnosis according to the subsequent course of the disease.

THE MECHANICAL TREATMENT OF LOCOMOTOR ATAXIA.

Since Charcot took up the suspension treatment of tabes according to the method of Motchutkowsky, every neurologist in Christendom has experimented with it and contributed to current literature his favorable or unfavorable views as to its value. As is often the case with remedies advised in incurable diseases, it has had transitory beneficial effects in some patients, it has been followed by no result whatever in others, and in a few it has been productive of evil, and even of fatal, consequences. A large array of devices for the purpose of stretching the spine has been placed upon the market, from a modification of the mediæval inquisitorial rack by a Vienna physician to the comparatively simple gibbet of Sayre. In many office corners the latter now stands idly by, a mute monument to many buried therapeutical hopes, or a three-legged mendicant acting as an office-servitor.

The practice of suspension for a minute or two or three, several times a week, does not seem to have accomplished everything that it promised, but as a passing fashion it has emphasized the fact that considerable good may result in many cases of disease of the spinal cord from the mere mechanical manipulation of the flexible canal containing it. It has furthermore led a number of medical troglodytes to ferret out from the dark caverns of literature old and similar methods, lost to sight until now or forgotten.

Branting, almost half a century ago, was accustomed to treat tabes by massage along the back while the patient was hanging by his hands to a horizontal bar, and in later works upon this subject, such as Hartelius's Sjukgymnastik, various flexing and twisting movements are recommended to be combined with massage in the treatment of this disorder. Some of the European mechanico-gymnastic institutions have long employed different species of friction and vibration for the same purpose.

Professor von Jürgensen has just called attention to a system of mechanical treatment begun by the German orthopædist, Hessing, more than fifteen years ago (Medicinisch-chirurgisches Centralblatt, January 3, 1890). Instead of stretching the spine for a few minutes at long intervals according to the

Russian method of suspension, Hessing has supported and extended it day and night year after year by means of an accurately-fitted corset with flexible and extensible steel supports between the fixed points of the shoulder and pelvis on each side. It is maintained that extension of the spine may be induced in this way, but there is good ground for the statement of some orthopædists that apparatus of this kind can never be made to assume more than a quarter of the weight of the body borne by the spinal column. The shoulders are not fixed points, but, on the contrary, very movable and uncertain.

Hessing's method has been productive of improvement in cases of locomotor ataxia to about the same degree as when they have been treated by other mechanical means. There is probably some one underlying principle in all these systems, but exactly what change is brought about in the morbid process in the spinal cord by their employment it is far from easy to determine. Release of compressed nervous elements by the stretching of sclerotic tissues, improvement of the circulation in the blood-vessels and lymph channels, and various other hypothetical influences have been adduced to explain the somewhat obscure phenomenon.

As some cases of tabes are susceptible of amelioration by any of the methods described, and as in all of them the fundamental object seems to be to attain a certain degree of extension of the spine, perhaps it would be best to abandon the more complicated methods and apparatus, and rely upon simple exercises capable of fulfilling the same purpose, such as hanging from a horizontal bar, bending over to touch the toes with the fingers while the legs are straight, and rotatory movements of the spinal column.

MINOR PARAGRAPHS.

THE SOLVINE PREPARATIONS.

Solvine preparations are the products, combined with alkalies, of the action of concentrated sulphuric acid on the various triglycerides of the fatty acids. Kiwull has experimented in the Dorpat Institute of Pharmacology (Transactions, vol. iii, 1889; Fortschritte der Medicin, Feb. 1, 1890) with the Müller-Jacobs castor-oil solvine, and the castor-oil, rape-seed-oil, and oleic-acid solvines of Kirschmann. Red blood-corpuscles were dissolved by the various solvine preparations with different degrees of rapidity, as they are by soaps of every kind. Large quantities prevented and small quantities delayed the coagulation of the blood. Injected into the circulation of cats, they produced symptoms of irritation in the neuro-muscular systems, clonic and tonic spasms with greatly increased reflexes. Death took place in a short time with respiratory retardation. No visible pathological changes were discovered. Dogs, on the other hand, died suddenly after the injections, without convulsions, but with marked dyspnœic manifestations. Extensive suppurative processes developed at all points of injection in the animals, in spite of antiseptic precautions. Visibly and audibly increased peristaltic action was observed in all of them, accompanied by profuse defecation and micturition and by vomiting. Some of the animals recovered and others died gradually by progressive emaciation and deep prostration. Hæmorrhagic inflammation of the entire gastro-intestinal tract, with dissolution of the blood, was observed in dogs. Applied to the eyes of cats, the solvines produced suppurative conjunctivitis; to the pharynx of frogs, cessation of ciliary motion. Like substances of the sapotoxine group, their disagreeable, bitter, biting taste caused lively hawking and vomiting. Kiwull draws the conclusions from his experiments that the internal administration of solvine preparations to human beings, in large doses, as recommended by Americans, is not advisable; and that their use in the form of ointments in dermatological practice is equally unallowable, because of their irritative action upon the subcutaneous tissues. He classes them among those substances which produce inflammation without bacteria. Tape-worms and ascarides are killed and dissolved by them, but the solvines can not be recommended as anthelminthics, because of their injurious effects upon the host.

THE REPORT OF THE SURGEON-GENERAL OF THE ARMY.

The progress made in army sanitation and the improvement in the condition of the soldier of late years can not be shown better than by a comparison of the death-rate at the present time with that for a number of years before the civil war. The average death-rate from disease, exclusive of yellow fever and cholera, during the years 1840 to 1859, but not including the years of the Mexican war, was 18·98 in a thousand, while that for 1889 was 6·09 in a thousand. The same progress is shown in the abolition of the wonderfully tight clothing heretofore worn by the West Point cadets, on the ground of its interference with the natural development of the muscular, circulatory, and respiratory systems. The observation that there is a race proclivity on the part of persons of African descent to disease and death is worthy of note. The higher death-rate noticed among negroes in civil life has been ascribed to their comparative poverty and unsanitary surroundings, but in the army these differences do not exist. Both whites and blacks are selected by the same recruiting officers, sent to the same depots, transferred to service to the same posts, and lodged in similar quarters; have the same allowance of clothing, use the same water and food, perform the same duties, and are subject to the same exposures; and yet the death-rate is very much higher among the colored troops. This has been observed throughout the history of the army and is also manifested by the records of the British forces in the West Indies.

HYDROGEN PEROXIDE IN DIPHTHERIA.

Dr. George W. Major, of Montreal, has treated twenty-two cases of diphtheria with an aqueous solution of peroxide of hydrogen, applied locally. He has used it internally also, but the local use is that affording the results of which he writes in the Montreal Medical Journal for January. His experience with the peroxide solution has extended over two years, with cases of more than ordinary severity and with a decided septic tendency. Fourteen cases presented nasal diphtheria. He has been enabled with this agent to keep the nose free from membrane. He says: "I have seen it remove membrane as quickly as it could form." In cases in which there was an offensive odor before the use of the peroxide, the discharges have after its employment become freed from their unpleasant odor. He commonly began by using a sixty-per-cent. solution of the so-called "ten-volume peroxide," but not infrequently used it in its full strength. The merits of this preparation are summed up to be: 1. It is void of offense to taste or smell, being odorless and almost tasteless. 2. Its use is painless and it is incapable of exciting any irritation in the parts to which it is locally applied. 3. It is not poisonous, and may be swallowed with impunity, if any excess of topical application happens to be used. 4. It is powerfully antiseptic and deodorant. 5. It is a perfect solvent of the exudate of diphtheria. 6. It in no way precludes the employment of the bichloride solution or any other remedy, but rather paves the way to their more thorough action. When used internally, the dose given by Dr. Major has been from half a drachm to two drachms. He further states that Dr. I. N. Love, of St. Louis, has used the peroxide solution in weaker dilution than himself; the former adds to the ten-volume peroxide either three or two times its volume of water. Dr. Glasgow, of St. Louis, has used the peroxide for three years with most satisfactory results.

THE REVISION OF THE PHARMACOPŒIA.

At the regular monthly meeting of the Kings County Medical Association, held on February 14th, an annual address was read by the retiring president, Dr. E. R. Squibb, in compliance with the by-law provision to that intent. The subject of the address was the approaching revision of the United States Pharmacopœia. Dr. Squibb showed that the medical profession did not take that interest in the revision which its importance demanded, and that medical delegates of a higher order than those commonly chosen should be appointed by the various constituent medical bodies.

THE WORK OF THE MARINE-HOSPITAL SERVICE.

The Sixteenth Annual Report of the Supervising Surgeon-General of the United States Marine-Hospital Service for the fiscal year 1889 has been issued. The book shows even more than usual care in detail of compilation. Apart from the customary reports of the general work of the service, this volume contains an exhaustive and scientifically elaborated historical, pathological, and clinical survey of the yellow-fever outbreak of last year. This part of the book, which constitutes the major portion of its contents, is an invaluable contribution to epidemiology and bacteriology, as well as a concise record of the work done by the officers of the service. That the *esprit de corps* and gallant self-abnegation which characterized the arduous labors of the medical officers were recognized and highly appreciated by the people and authorities of Florida is shown in the following quotation from a series of resolutions passed by the Legislature:

"*Resolved*, That the House of Representatives of the State of Florida does hereby tender its sincere thanks to Surgeon-General Hamilton and the officers of his corps for the able, conscientious, and faithful manner in which the duties devolving upon them were met and fulfilled, and also recognizes the wisdom and zeal displayed in perfecting and extending the measures leading to the relief of the sick, suffering, and panic-stricken of this State."

This is a record of which to be proud. Those who follow the workings of the service know that it is a branch of the governmental system which is scrupulously maintained in practical efficiency.

THE LOOMIS LABORATORY.

We have received the first installment of the published Researches of the Loomis Laboratory of the Medical Department of the University of the City of New York, a brochure of nearly a hundred pages, handsomely illustrated with process reproductions of photographs and with woodcuts. It is announced that the parts will not be issued at stated times, but whenever sufficient matter in a finished state has accumulated. The objects of the publication, as stated in a prefatory note, are: To stimulate original investigation in the laboratory and to preserve its records in a collected form. The first part opens with an historical and descriptive sketch of the laboratory, and this is followed by articles contributed by Dr. W. G. Thompson and Dr. Sanger Brown, Experiments on the Cortical Sight Center; Dr. R. A. Witthaus, On the Post-mortem Imbibition of Poisons, and the Chemico-legal Aspect of Embalming; Dr. J. O'Dwyer, The Mechanism of Re-inflation of a Collapsed Lung with an Open Pleural Cavity; Dr. W. P. Northrup, The Effect of Opening the Pleural Cavity; Dr. W. G. Thompson, Further Observations upon the Pleural Cavity; Dr. A. M. Phelps, Does Prolonged Fixation of Joints produce Ankylosis of them? Dr. Henry P. Loomis, Tubercle Bacilli found in the Bronchial Glands of Non-tubercular Subjects; Dr. Ivin Sickles, A Reflection Galvanometer; and Dr. J. M. Byron, Experiments regarding the Tenacity of Experimental Rabietic Virus. All these articles are exceedingly creditable to their authors and to the institution.

THE CHICAGO POLYCLINIC.

A special course of nine lectures on abdominal and pelvic surgery, with demonstrations on dogs and on the cadaver, will be given at the Chicago Polyclinic by Dr. Charles T. Parkes, Dr. Nicholas Senn, Dr. Christian Fenger, and Dr. W. T. Belfield, beginning on March 24th and lasting two weeks. This is about as strong a corps of lecturers on a special subject as could well be got together in the United States, and the fact of having got such men together is proof alike of the growing appreciation of post-graduation schools and of the quickness of the particular faculty in question to divine the channels in which the interest of the profession mainly runs.

VIVISECTION IN PHILADELPHIA.

It is reported that a lecturer in the Medico-chirurgical College, of Philadelphia, having been charged with cruelty to animals by the president of the Anti-vivisection Society, has been discharged. It is always gratifying to learn of the just issue of such a procedure, and it is doubly gratifying to learn that in this instance "all the witnesses were obliged to admit that there was no cruelty practiced, and that vivisection for such a purpose [that of illustrating Dr. Senn's method of intestinal anastomosis] was justifiable," for it shows that even anti-vivisection agitators may sometimes be made to see that the mode of investigation and teaching against which their crusade is directed is not necessarily cruel.

SANITATION AT THE SEGUINE'S POINT CEMETERY

The purification of the former burying-ground of the quarantine station at Seguine's Point, Staten Island, has been begun. The three hundred bodies interred there during twenty-five years are to be cremated, and exhumation of those bodies will be accomplished gradually, under contract, within a period of ninety days. A temporary crematory has been constructed at that point, and the cemetery will be quarantined against visitors until the completion of the work. The bodies are chiefly those of foreigners, many of whom died by yellow fever or other infectious disease while undergoing quarantine detention.

DR. KÁLLAY'S AERZTLICHER ALMANACH.

The ninth annual issue of this useful hand-book, for the year 1890, has been received. Besides the usual contents, which we have alluded to in former years, it contains a short biographical account of Dr. Otto Kahler, with a portrait; an essay on diabetes, by Dr. Kállay; and an account of Professor Drasche's medicinal treatment of heart diseases, by Dr. A. Rothziegel.

SALICYLATE OF SODIUM IN GENERAL PRURITUS.

DR. WERTHEIMER, in the Münchener medicinische Wochenschrift, advises the treatment of general pruritus by means of a three-per-cent. solution of sodium salicylate, in doses of a tablespoonful thrice daily. This plan of treatment, he says, may be continued for some time, in the confident belief that it will not only promptly moderate the unpleasant pruritic symptoms, but also radically remove the underlying disease.

QUARANTINE AGAINST EPIDEMIC INFLUENZA.

DR. TRUDEAU has written to the Medical News regarding an apparently successful quarantine against the influenza established at the Cottage Sanitarium, near Saranac Village. In view of the probable hurtful influences of influenza on the patients under his care at that institution, he undertook to quarantine the place when the disease approached his neighborhood. In this he seems to have been successful as late as February 8th, the date of his last letter, for, although many persons had the disease in the country about him, not one case had occurred at the sanitarium itself.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 4, 1890:

DISEASES.	Week ending Feb. 25.		Week ending Mar. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	17	6	15	5
Scarlet fever	87	11	84	7
Cerebro-spinal meningitis	5	3	3	4
Measles	95	12	129	6
Diphtheria	110	25	108	27
Varicella	7	0	6	0

The Merritt H. Cash Prize.—The secretary of the Medical Society of the State of New York announces that the society offers a prize of one hundred dollars, payable from the Merritt H. Cash prize fund, for the best original essay on any medical or surgical subject. The conditions are: That the competitors shall reside in the State of New York; that the essays shall be either printed or type-written; that each essay shall be designated by a motto on the title-page; that a corresponding motto, together with the name of the writer, shall be inclosed in a sealed envelope and attached to the essay; and that all essays shall be sent to the chairman of the committee on prize essays, Dr. George F. Shrady, New York, prior to January 1, 1891.

The Berlin Congress.—Dr. Robert Newman, of No. 68 West Thirty-sixth Street, New York, announces that he has made arrangements for certain stated European tours, at reduced rates of travel, for American physicians who purpose attending the Tenth International Medical Congress. His circular, which we presume he is prepared to send to any applicant, gives very full information as to routes, expenses, etc.

The Great German Medical Association.—The National Medical Association for the German Empire has for its organ the Aerztliches Vereinsblatt für Deutschland, a monthly journal. In a recent number of the Vereinsblatt an enumeration is reported regarding its total membership, which was 10,557, contained in 219 constituent local associations.

The Chair of Surgery at Halle.—The British Medical Journal states that Dr. Volkmann's successor as professor of surgery at Halle is to be Professor Madelung, of Rostock. The same journal says that an American admirer of Volkmann's has offered five thousand marks as a contribution toward a memorial of the deceased surgeon.

Change of Address.—Dr. L. S. McMurtry, from Danville, Ky., to No. 652 Fourth Avenue, Louisville.

Recent Deaths.—Dr. John J. Crane, formerly a prominent New York physician, died on March 4th, at his home, near New Haven, Conn., where he had lived in retirement for the last few years. He was in the seventieth year of his age. Dr. Edward K. Henschel died at his mother's home, in New York, on the 28th ult., in the fortieth year of his age.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 23 to March 1, 1890:*

By direction of the Secretary of War, a board of medical officers, to consist of SMART, CHARLES, Major and Surgeon, HAVARD, VALERY, Captain and Assistant Surgeon, and BRECHEMIN, LOUIS, Captain and Assistant Surgeon, is appointed to meet at Fort Leavenworth, Kansas, on March 15, 1890, or as soon thereafter as practicable, for the purpose of preparing a manual of drill and instruction for the members of the Hospital Corps, and to examine the equipment of the corps with a view to its improvement. Par. 9, S. O. 47, A. G. O., Washington, D. C., February 26, 1890.

LORING, LEONARD Y., Major and Surgeon, having been found incapacitated for active service by an Army Retiring Board, the extension of leave of absence on surgeon's certificate of disability granted him in Special Orders No. 34, February 10, 1890, from this office, is, by direction of the Secretary of War, still further extended until further orders on account of disability. Par. 3, S. O. 46, A. G. O., Washington, February 25, 1890.

PATZKI, J. H., Major and Surgeon. The leave of absence for seven days granted in Orders No. 25, Fort Huachuca, Arizona, February 12, 1890, to take effect on the 14th instant, is extended twenty-three days. Par. 1, S. O. 18, Department of Arizona, February 17, 1890.

KNEEDLER, WILLIAM L., Captain and Assistant Surgeon, upon being relieved from duty by Captain Robinson, will report at Jackson Barracks, La., for duty at that station, relieving WALKER, FREEMAN V., First Lieutenant and Assistant Surgeon. Upon being relieved, Assistant Surgeon Walker will report at Fort D. A. Russell, Wyoming, for duty at that station. Par. 4, S. O. 43, A. G. O., February 20, 1890.

ROBINSON, SAMUEL Q., Captain and Assistant Surgeon, now on duty at Fort Hamilton, N. Y., is relieved from duty in the Division of the Atlantic, and will report in person to the superintendent, United States Military Academy, West Point, N. Y., for temporary duty at the Academy, to relieve KNEEDLER, WILLIAM L., Captain and Assistant Surgeon. Par. 4, S. O. 43, A. G. O., February 20, 1890.

Promotions.

SMITH, JOSEPH R., Lieutenant-Colonel and Surgeon. To be surgeon, with rank of colonel. February 9, 1890.

BACHE, DALLAS, Major and Surgeon. To be surgeon, with rank of lieutenant-colonel. February 9, 1890.

HARVEY, PHILIP F., Captain and Assistant Surgeon. To be surgeon, with rank of major. February 9, 1890.

Society Meetings for the Coming Week:

MONDAY, *March 10th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private—anniversary); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

TUESDAY, *March 11th:* New York Medical Union (private); Medical Societies of the Counties of Chemung (quarterly), Elmira, Rensselaer, and Ulster (quarterly), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

WEDNESDAY, *March 12th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the Counties of Albany and Montgomery (quarterly), N. Y.; Pittsfield, Mass., Medical Association (private); Worcester, Mass., District Medical Society (Worcester); Philadelphia County Medical Society.

Thursday, *March 13th:* New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *March 14th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties.

Saturday, *March 15th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Letters to the Editor.

THE TREATMENT OF THE INSANE IN GENERAL HOSPITALS.

Utica, N. Y., *March 1, 1890.*

To the Editor of the New York Medical Journal:

Sir: Your editorial of February 22d, on The Treatment of the Acutely Insane in General Hospitals, points to a reform which thirty years' experience in the treatment of that class leads me to consider of great importance. Certainly, it is to our shame that we are behind the Australian colonies in our system of lunacy provision. In establishing reception-houses to which all the insane are first committed for examination by experts in mental disorders, these colonies are, however, only following the example of France. Since 1867 every new case in Paris has been sent first to the Asylum of Ste.-Anne, where there is a reception-asylum for forty patients, in which all are thoroughly examined by skillful alienists, and then committed either to the main institution or to one of four other asylums of the department of the Seine. Such a provision is especially necessary in our great cities, where a wide difference exists among those who are committed as insane, yet all are crowded into asylums of the same character, with no more difference in their treatment than is made between that of pickpockets and that of thieves in our jails.

Now, it may be true, as Griesinger holds, that there is no specific difference, from a scientific standpoint, between the delirium of fever and that of insanity. But for practical purposes it is most important to distinguish the delirium of blood poisoning in its various forms, that of organic brain disease, and that of idiopathic mental disorders. Cases of the first class require the most skillful medical treatment in their earliest stages. In those of the second class, organic brain disease, the issue is now almost always fatal, and the care and treatment of these cases are more difficult than those of any other form of disease. They ought never to be treated together with cases of insanity proper, and the fact that they are freely committed to our asylums is a principal cause of the neglect and abuse of the insane in these institutions. From seventy to eighty per cent. of those committed as insane need, little if any medical treatment, and require the attention of medical men of high skill and character mainly to prevent their being treated with drugs, upon the theory of insanity as a physical disease, or to keep them quiet. The effect upon their morbid ideas and feelings of removal from home is of itself generally beneficial, and the impersonal and unobtruded authority of an asylum does very much for their comfort and recovery. When they are not massed and crowded together, but have the advantages of classification and segregation, ten or twelve of them may be taken care of by a single attendant. But cases of organic brain disease, and those of grave delirium from fevers, etc., require one or two attendants each, and an entirely different plan of treatment. It is the necessity of treating these classes in asylums with the properly insane that has led to the excessive use of chemical and mechanical restraints, and to other serious abuses. They especially, it seems to me, should be treated in the special wards of our general hospitals, which you have suggested, and every city should have one or more reception-asylums, in which such cases should be carefully distinguished from the insane proper, and sent to one of the general hospitals for treatment. A much larger proportion of them would recover than is possible under present conditions, and they would be spared "that inevitable stigma of having been in an asylum," which has not yet faded away in the light of all our boasted civilization.

L. A. Tourtellot, M. D.

THE PHYSIOLOGY OF THE TONSILS.

Brooklyn, *February 27, 1890.*

To the Editor of the New York Medical Journal.

Sir: About a year ago some medical journal contained an article on the physiology of the tonsils, including under that name a number of follicular glands within the mouth and pharynx, and offering new speculations respecting their functions. Can you or any of your readers say where that article is to be found? I can not recollect where I saw it, and have looked in vain for it through the Index Medicus for the first half of the year 1889. W. H. Thayer, M. D.

ELEPHANTIASIS OF THE SCROTUM.

Muncie, Ind., *February 18, 1890.*

To the Editor of the New York Medical Journal:

Sir: The excellent illustration in your issue of February 8th, of an ovarian tumor, prompts me to send you the inclosed photograph. I do not send it because elephantiasis of the genital organs is alone a rare thing; but, on account of the size and weight and peculiar characteristics of this case, it may prove of interest to the profession.

While residing for a few months in Kentucky, on account of my wife's health, I had my attention called to this case, and visited the man a number of times, having the photograph taken upon the occasion of my last visit, September, 1888.

Here allow me to digress to say that I am in receipt of a letter bearing date February 1, 1890, saying: "H. still lives, though very feeble; the tumor has grown larger since you saw it." As it is not my object to enter into the pathological or physiological aspect of the case, no argument being necessary to establish my diagnosis of genital elephantiasis, I will proceed briefly to the peculiar phases of the case. S. H., aged fifty-two years, a laborer, enjoyed perfect health up to nine or ten years ago. About this time his scrotum began to itch and burn, and he noticed that the skin on the left side of the scrotum felt thick, and that from week to week it grew perceptibly thicker, the scrotum getting very large. From month to month, and from year to year, he has noticed this enlarging process going on. For the first five or six years its growth was slow, but of late years it had grown more rapidly until it had reached in the fall of 1888 the stupendous size and weight given below. It measured by tape-line sixty-two inches and a half in length and sixty-nine inches and a quarter in circumference. Its weight was ascertained by placing a pair of large counter-scales on a chair and putting the scale platform under the tumor. It weighed seventy-six pounds and three quarters. Both testicles can be detected—the right twelve inches from its natural location, and the left ten inches and a half. Mr. H. draws his urine himself, and without any trouble, using for the purpose a common reed, such as pipe-stems are made of. This home-made and improvised catheter is twenty-one inches long and perfectly straight. He sits by the window day after day, the tumor resting on a chair. When he wishes to move around the room, a canvas bag or sack is put over it, the bag being attached to his neck by straps, and he is thus able to cross the room to his bed. The different functions are normal.

Abner C. Jones, M. D.

[The photograph inclosed by Dr. Jones abundantly illustrates his description of the tumor.]

ENDOSCOPY BY INFLATION.

New York, *February 25, 1890.*

To the Editor of the New York Medical Journal:

Sir: The instrument described by Dr. Heuel, in your issue of February 22d, for dilatation of the urethra by means of air, is almost identical with the Acro-Urethroskop described by von Antal in the Centralblatt für Chirurgie for May 14, 1887, and subsequently in the Annual of Medical Sciences. Such differences as may exist between them seem to be rather in favor of the original instrument.

It does not seem too much to ask of inventors that they should be acquainted with at least so much of the current literature of their subject as is brought to their hand by monthly and annual abstracts and indexes. X.

115 West Fifty-fifth Street, *March 4, 1890.*

To the Editor of the New York Medical Journal:

Sir: In a recent issue of your Journal there is an article by Dr. Franz Heuel, Jr., describing a method of urethroscopy in which the urethra is dilated with air by means of an instrument devised by him for this purpose. The doctor is evidently unaware that this method, whatever may be its merits, is by no means new, and that an instrument practically identical with the one he describes was presented to the profession some three years ago by von Antal. A detailed account of this instrument appeared in the Centralblatt für Chirurgie, in the Vierteljahrsschrift, and in this country in an illustrated article by Dr. Keyes in Sajous's Annual of the Universal Medical Sciences for 1888, and was referred to in my article, Some Improvements in Urethroscopic Apparatus, in the New York Medical Journal for April 13, 1889. W. K. Otis, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of January 22, 1890.

The President, Dr. C. K. Briddon, in the Chair.

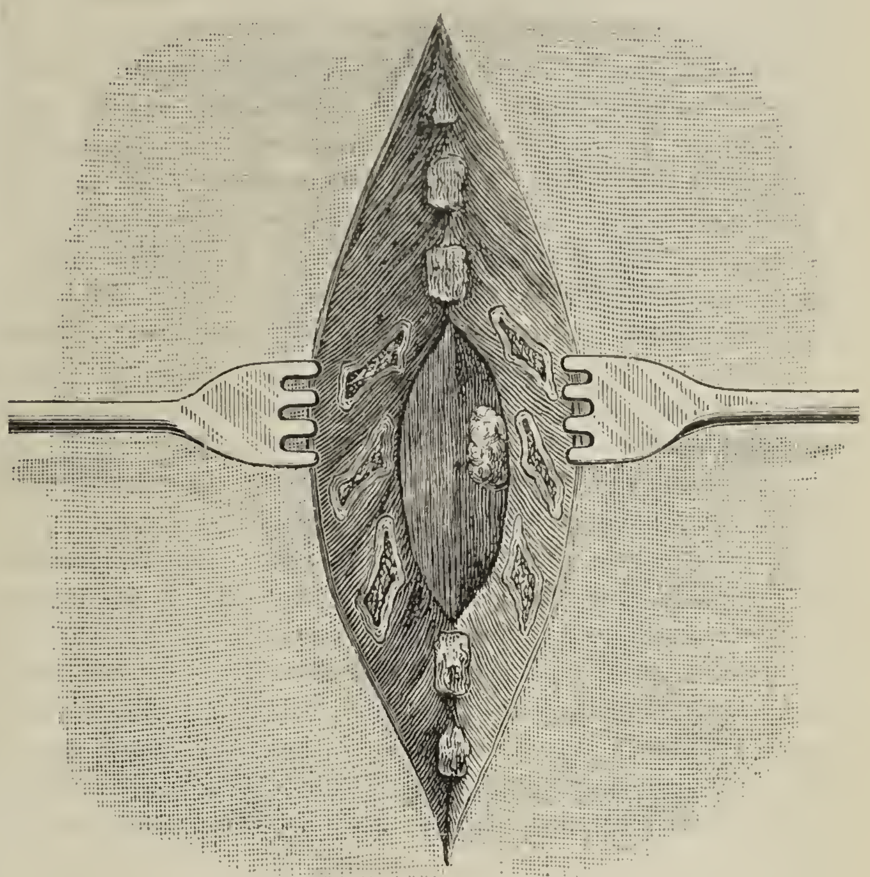
Dr. J. A. Wyeth reported the histories of the following cases:

Reunion by Suture of the External and Internal Popliteal Nerves with the Great Sciatic Ten Weeks after Division.—J. G., aged sixty-six, a farmer with good personal and family history, had, late in July, been struck from behind by the blade of a mowing-machine, the saw-like teeth of which had divided all the flexor muscles of the left thigh at about the junction of the lower and middle thirds of the femur. Considerable, though not alarming, hæmorrhage had ensued. The wound had been cleaned and closed, no attempt being made to unite the muscles or nerves. The process of repair had been rapid. When the speaker saw the patient, on October 19th, there was complete motor paralysis below the knee, and no sensation in this region, except along the distribution of the long saphenous nerve. Several large ulcers had formed on the sole of the foot. On October 21st, at the Polyclinic Hospital, he made an extensive dissection in the line of the scar, and found the ends of the divided nerve trunks. The division had occurred exactly at the point of bifurcation of the great sciatic, so that there was one end above and there were two below. There was a separation of from an inch and a half to two inches. The ends of the trunks were bulbous, and it was necessary to cut off layer after layer, until healthy fibrillæ were encountered. This process increased the separation to fully three inches. Four middle-sized silk sutures were introduced at regular intervals through the upper or main trunk, the needle passing directly through the nerve a quarter of an inch from the end. The two inner sutures were carried through the end of the internal branch, and the two outer through the external popliteal nerve. The leg was then firmly flexed on the thigh, and by carefully distributed traction on the four sutures complete reunion was effected. The wound was given aseptic treatment, and moist bichloride dressings were applied, with a plaster-of-Paris fixation bandage over all. On November 12th, the twenty-second day, the first dressing was made. The wound had healed. There was slight persistent granulation near the center of the incision. On the 23d, the thirty-second day, the patient was discharged and left for home. Within five days after the operation sensation seemed to be returning. On the twenty-second day the speaker demonstrated a marked restoration of sensibility to a large class of physicians. The patient was completely blindfolded and his face turned away from the injured member, and he readily located the contact of fingers over the entire area previously insensible. The ulcers had healed and sensation had returned. On December 16th Dr. Harmon, from whom the patient had come, wrote that there was "considerable pain in the foot and leg." No extension had been permitted, and the leg was still flexed at an angle of about 45°.

Exploratory Trephining on Account of Epilepsy following Injury of the Skull.—G. H., twenty-two years of age, with a good family history, had come to Dr. Wyeth from Bridgeport, Conn., through the courtesy of Dr. Young, of that city. When five years old the patient had been struck on the right lateral aspect of the skull by a horse's hoof. He had recovered from this injury without any impairment of mind or body. Five years subsequent to this he had fallen from a stone wall, striking on about the same part of the scalp. This last injury did not break the skin, and yet he had been confined to bed for three weeks, having fever, headache, and delirium. About a month after this illness he had had a marked epileptic seizure. From this date (he was then about eleven years old) he had suffered from frequent and regular epileptic attacks, the periods of intermission varying from a few days to three or four weeks. There had been no paralysis of motion or sensation, and no history of convulsive movements in any group of muscles could be elicited. The patient was first seen by the speaker in November, 1889. He was evidently of feeble mental development and of stubborn disposition. A well-defined scar, in shape like the Italic *f*, extended a distance of five inches from the right temporal ridge in front backward across the fronto-parietal suture, terminating at about an inch from the sagittal suture near the right parietal eminence. It was decided to expose the skull by an incision through the cicatrix. On lifting the pericranium, a well-marked depression was discovered, an inch and a quarter in length, situated in front of the parietal eminence and directed nearly at a right angle to the sagittal suture. An inch-and-a-quarter trephine was applied and a disc of bone, including the depression, removed. The disc was much thinner along the scar of the fracture than elsewhere, and increased in thickness posteriorly. With the rongeur the opening was enlarged in this direction, removing in addition about half an inch square of the bone, until all the thicker portion was cut away. The dura was not adherent and there did not appear to be compression of the brain. In order to carry out the exploration, the dura was opened for an inch antero-posteriorly. The convolutions seemed normal and no punctures were made. The dura was closed with catgut, the bone was not replaced, twists of catgut were inserted for drains, and the scalp was reunited with silk. An aseptic moist dressing was applied. The wound healed promptly without suppuration, and the patient was discharged on January 1st, the twenty-sixth day. At about the end of the third week the patient had two slight convulsions. There was little reason to hope for any permanent benefit. The hopeless condition of the patient, the palpable injury to the skull, supervening convulsions, and the fact that cases were recorded where under similar conditions compression had been found to exist, with improvement after the compression had been relieved, had been the speaker's reasons for undertaking the operation.

Exsection of the Knee Joint for the Relief of an Old Traumatic Backward Dislocation of the Tibia; Recovery.—A. M., twenty-seven years of age, a native of Germany, when three years old had received a traumatic dislocation of the knee which had not been reduced. Some inflammation had followed this injury for two or three years, after which, except for the shortening, the knee had given him no great inconvenience until within the last few weeks, when it had become quite painful. On June 3, 1889, he was admitted into Mount Sinai Hospital. He was pale and badly nourished. The left femur overrode the tibia about two inches. The shortening was greater than this on account of the undeveloped condition of the limb. Several scars indicative of old sinuses were seen about the joint. On June 11th excision was performed. There was no disease of the bones or capsule. The ends of the bones were misshapen from abnormal pressure. About two inches of the femur and less than an inch of the tibia had to be sacrificed in order to bring the bones in apposition in the straight position. Fixation was secured with steel drills. Recovery with a useful, straight limb followed.

Paraplegia from Compression; Myelitis in the Dorsal Region; Abscess; Operation; Recovery.—S. S., a boy, nine years of age, was admitted into Mount Sinai Hospital on May 28, 1889. A week before, on his rising from bed, it had been discovered that he could not stand. He did not complain of pain and was in fair general condition. There was no history of accident. On his admission, a gibbosity was noticed at the fourth, fifth, and sixth dorsal spines, with complete paraplegia of the voluntary muscles. He could not empty his bladder, but fæcal evacuations were voluntary. Sensation was not disturbed. A plaster jacket was applied while the patient was suspended. On October 5th, four months after his admission, there was no improvement. As a result of catheterization to relieve retention of urine, a severe urethritis and cystitis ensued, for which suprapubic cystotomy for drainage was done. On December 3d, as it had been determined to explore the vertebral column, the spines and laminæ of the third, fourth, fifth, sixth, and seventh dorsal vertebræ were exposed by a median single incision, and the skin and muscles were lifted together from the bones. The laminæ of the fourth, fifth, and sixth vertebræ were divided on each side, and, with their spines, were removed. The dura was very tense immediately beneath the right lamina of the fifth vertebra and bulged out well beyond the level of the bone which had just been removed. On opening the dura, a sharp prominence occupying the right half of the posterior portion of the cord was observed. It was about half an inch in perpendicular measurement. On puncture, a creamy substance escaped, to all appearances like thick pus. About thirty minims were evacuated, and the tumefaction was entirely relieved. The dura was closed with fine catgut sutures and a moist aseptic dressing was applied. The patient made a good recovery, but up to January 12, 1890, there had been no improvement in the paralysis. The bladder drainage was being continued. The fluid from the abscess consisted chiefly of broken-down cord substance, with a few leucocytes. The case was evidently one of compression of the cord from Pott's disease.



Removal of the Entire Clavicle, with Complete Reproduction of the Bone and Restoration of Function.—S. D., eighteen years of age, was admitted into Mount Sinai Hospital on October 3, 1889. Some weeks before, he had begun to have pain and had noticed a swelling in the region of the collar bone. There was no history of injury. His general condition was fair. There was evidently extensive necrosis of the clavicle, and on October 4th, under ether narcosis, the entire clavicle, being found dead, was removed. The periosteum was stripped carefully off, antiseptic dressings were applied, and the arm was kept in the position for fracture of the clavicle. The patient recovered rapidly, and on December 20th was discharged with a completely reproduced collar bone, with new joints at the sternal and the scapular ends. The resultant shortening was unappreciable.

Perityphlitic Abscess; Operation; Discharge of Ingested Matter per urethram during Convalescence; Recovery.—O. P., twelve years of age, with a good history, had been seized on April 10, 1889, with slight pain in and near the umbilicus. For the next day or two the symptoms had pointed more directly to inflammation near the cæcum, and when the speaker visited him, on April 14th, there was no doubt that an abscess was forming. The usual operation was done and about a pint of pus with a distinct fæcal odor was discharged. A very slight quantity of fæcal matter appeared with the first two dressings, and none afterward. On the tenth day the boy was brought by train and ambulance to a private hospital in New York. He continued to improve despite the fact that a communication had formed between the abscess or the intestine and the bladder. He suffered slight cystitis while these fragments of ingested matter were passing out by this unnatural route. These symptoms lasted about ten days and then ceased, and the boy recovered and was now hale and hearty.

A Large Cystic Tumor of the Breast.—Mrs. W., forty years of age, married nineteen years, no children, was seen first on November 16, 1889, through the courtesy of Dr. Dougherty, of Georgia. Her family history was negative. Six years ago she had first noticed a small painful nodule in the lower outer quadrant of her right breast. It had progressively enlarged up to about three months before she was seen by the speaker, since which date it had rapidly increased in size. The entire breast was involved and the nipple was retracted. The tumor measured about eight inches in its transverse diameter, and stood out from the ribs about six inches. It was bluish-brown in color; the skin adhered to the mass, but the mass was freely movable on the chest. It was soft and elastic and evidently contained a great deal of fluid. It was removed on November 19th by a free and wide dissection. On opening the tumor after removal, about two pints of brownish, soap-like fluid escaped from a large cyst which occupied the capsule of the breast. Only a small quantity of gland tissue remained in the deeper portions of the mass. The microscopic appearances gave no indications of malignancy. It seemed to be an adenoma which had undergone cystic degeneration. The patient had recovered.

The following report had been made by Dr. J. S. Thacher, who examined the specimen: "I examined the fluid which you sent me from the cyst of the breast, but found nothing in it pointing to the nature of the cyst. The cyst wall was, for the most part, a thin membrane, though on one side there was a moderate mass of fairly firm tissue. There was no distinct tumor mass. Sections from the thicker portion of the wall show only gland tissue, inflamed, with some of the alveoli distended and a little irregular in arrangement; and also fibrous connective tissue. There is no appearance of a malignant growth."

Infection of the Mammary Gland through the Nipple and Galactophorous Ducts; Double Non-simultaneous Amputation for Destructive Multiple Abscess; Recovery.—Mrs. H., aged forty-two, the mother of four children, the youngest three years old, long a resident of Georgia, came under observation in April, 1889. Her family history was negative, her personal history good. Four months before this date she had first felt a sharp pain beginning near the nipple and extending to the outer portion of her left breast, which had been followed by induration and abscess. After seven weeks an incision had been made and some pus evacuated, and this operation had been repeated a few weeks later. When the speaker examined her, in April, 1889, she was in fair general condition. The left breast was somewhat enlarged, the nipple was hard and slightly retracted, and there were noticed several lines of induration radiating from the nipple into the deeper structure of the gland. From eight to twelve separate points of induration were felt in various portions of the organ, and in some of them fluctuation was perceptible. Under cocaine anæsthesia one or two of these hard spots were punctured and a small quantity of pus was evacuated. As the patient was just passing through the menopause, and as the breast had evidently been destroyed by multiple abscesses, it was removed on April 30th. She made a rapid and uninterrupted recovery and left for home in June. In August she wrote that the nipple of the other breast was inflamed and was discharging a few drops of rather a watery fluid. Irrigation with 1-to-5,000 bichloride solution and aseptic flaxseed poultices were advised. Some temporary improvement followed, but in November she presented herself with the breast in all particulars not unlike that in the first attack, and on November 5th, seven months after the first operation, the speaker amputated the remaining gland. The wounds in both instances healed without suppuration.

Dr. B. S. Beach, who examined the specimens, had reported as follows: "In the breast of Mrs. H. I find several abscess cavities filled with pus which contained many cocci. These were dead, so I was unable to make cultivations to determine their variety. Beginning with the edge of the abscess cavities, I find the adipose and glandular tissues thickly infiltrated with the small round cells of inflammation, which become less numerous farther away from the abscess cavity. I could find no cocci in any of the sections after careful search. The gland alveoli were slightly enlarged."

(*To be concluded.*)

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of February 10, 1890.

Dr. Robert Abbe in the Chair.

Fractures of the Patella.—This meeting was entirely devoted to the consideration of the respective merits of the various methods advocated and practiced in the treatment of fractures of the patella. The proceedings were rendered specially interesting by the presentation of about seventeen patients, each of whom had suffered from this fracture and whose cases illustrated the results of operative and non-operative treatment, with the various forms of union and degrees of ability to use the limb. While some of the cases were of comparatively recent origin, others dated back some ten or twelve years. The advocates of both lines of treatment had every reason to be satisfied with the really brilliant results, which, so far as the patients' requirements went, were in many instances perfect.

The Result of the Treatment of Fracture of the Patella without Operation.—Dr. W. T. Bull read a paper on this subject. He said that before the spread of antiseptic surgery there had been a general agreement as to the results of fracture of the patella. Bony union had been regarded as a great rarity, and efforts were directed toward obtaining as short and firm a ligamentous union as possible. Ankylosis was much feared, and the use of passive motion, at an early period in the treatment, was generally adopted. With antisepsis it was thought that a great gain had been made toward immunity from danger by operative interference, but, though bony union was attained, the danger of the surgical procedure had soon become apparent. Judging from the tenor of the literature, it seemed the incentive to operation had been that by the old methods of treatment not only bony union but useful limbs were exceptional. The speaker then proceeded to give an exhaustive statistical review of the results of non-operative treatment. He was able to make personal report of the results in twenty-two cases, all of which, except one, had been examined by himself or Dr. C. A. Powers within the past two months. The periods covered by the cases varied from one year and nine months to thirteen years from the date of injury. This list of twenty cases embraced sixteen in which the injury had been a primary fracture, and six cases of refracture or rupture of the ligamentous union. Only nineteen patients were represented, as in three of them there had been fracture of both sides at different times. Of course functional results were not expected to be so good in the cases of refracture. Of the sixteen fractures, excellent results had occurred in fourteen and a bad result in two. A good result might be defined as meaning complete and strong flexion and extension, with the ligament firm, and with little or no atrophy of the thigh. Such a result might be considered as functionally perfect. Such good result had been obtained in ten of the cases. Where either flexion or extension was imperfectly performed with, however, a joint, from the patient's point of view, useful for all the purposes of his or her occupation, and which exhibited weakness only after unusual exertion, the result had still been called good. Of such there had been four cases. The bad results embraced two cases, in which there was no power of extension whatever, and the patient had to depend on artificial supports. In all these cases the treatment had consisted in the use of plaster-of-Paris splints after subsidence of the effusion, and the application of adhesive-plaster strips beneath it to steady the fragments. After giving the details of the treatment in uncomplicated cases he went on to say that if there existed marked atrophy of the thigh, without separation of the patellar fragments, the development of the quadriceps should be stimulated to the utmost. If the ligament and the joint function began to weaken, he would advise wiring the bone. If done at this stage, the operation would be easier than subsequently, when the fragments were more widely separated. For stiffness he would hesitate to interfere. A strong and stiff joint was better than a weak and limber one. If, however, such stiffness existed with impaired extension, he would break up the adhesions first, and afterward wire the fragments. The treatment of rupture of ligamentous union should be a conservative one until it was apparent that the issue would be unsatisfactory, when it might be wired. In a case of this kind in which he had operated there had been bony union, flexion to 90°, and complete extension, but at the end of two years and a half the patient was complaining of weakness of the limb, and there existed an inch of diminution in the circumference of the thigh. He would only urge operation in promising cases and where the patient was fully alive to the knowledge of the risks and uncertainties. The same opinion held good for old ununited fractures. Where no operation was undertaken, an apparatus might be worn to provide for the motion of extension. In compound fractures there was no question about the propriety of wiring.

Although the speaker's experience had been limited in recent fractures to the simplest conservative treatment, he thought he might venture some criticism on the more serious operative procedures which had attracted so much attention. It had never received general support. Death and disaster from amputation and suppuration and ankylosis had followed its performance at the hands of many, and there was no evidence to show that, even when in the hands of the few it had proved safe, the ultimate results had been better than those by non-operative methods. It was sufficient to condemn it that its advocates admitted that success depended upon the observance of the minutest details, and stated that it should never be undertaken by an ordinary practitioner. Other methods, such as aspiration and the puncture and irritation of the joint to hasten union, had also been suggested, but, though there were no accidents recorded from such procedures, they had often failed to accomplish any good issue. The circumpatellar suture, which consisted in drawing the fragments together with silver wire subcutaneously introduced, had not given happy results, and there was no evidence to prove that anything had been gained by the use of Malgaigne's hooks. The speaker looked upon all these devices as meddlesome procedures. They had for their aim bony union, but were all attended with risk, and if adopted, must be so in the face of evidence that ligamentous union would give a useful and strong limb, and that this latter condition could be assured by measures both simple and safe.

Dr. L. A. Stimson thought that the principal objection which was made against the non-operative method—namely, that it did not give the fullest functional results—had no force when compared with the distressing consequences which had followed the operative procedures. He had never wired a recent simple fracture of the patella, but had done so in a compound case and in a case of refracture. It was a question whether many of the cases represented as resulting in bony union were entitled to this result. Simple immobility of the fragments did not mean bony union. He thought he had detected some slight movement in one of the cases exhibited. As a matter of fact, one was not justified in assuming such union as perfect until the opportunity arose for sawing the patella through. The speaker then fully described the details and results of a subcutaneous method which he was at present giving careful trial, and which had so far proved most satisfactory.

Dr. C. McBurney said that he was unable to dissent much from the views expressed by the reader of the paper. He thought that, except in cases of compound fracture, or perhaps of refracture with very imperfect union, operative procedures should be avoided as only introducing an element of danger into the cases. The results obtained by non-operative methods had been, with certain exceptions, very satisfactory. He did not, however, place his standard quite as high as those who advocated operation. After going into detail as to the surgical points to be observed in order to secure the best results, the speaker concluded by saying that he should like it recorded that he was entirely in favor of the non-operative method of treating fractured patellæ.

Dr. W. F. Fluhrer said he had operated in cases of recent simple fracture of the patella. He had never had the slightest accident in the way of suppuration or joint complication. He had introduced his cases to show double operations on the joints and some of the accidents which could follow wiring. If antiseptic methods, carefully and perfectly carried out, were at all competent to protect from sepsis, then there could be no doubt as to an operation being the means which afforded the best opportunity for a reconstruction of the joint, and such reconstruction, when effected, gave the patient a better chance in the event of refracture. The failures reported from operations had probably been due to imperfect observation of the technique of antisepsis.

Dr. J. D. Bryant said he had, three years ago, written his opinion that this measure should not be employed except for other reasons than that of the existence of a simple fracture of the bone, because he had not believed it was good surgery to expose a patient to the contingencies of suppuration, amputation, ankylosis, and even death, for the better rectification of an injury which, at its worst, had no tendency to terminate fatally and which almost invariably resulted in a serviceable limb when treated by ordinary methods. Further practical experience had led him to the conviction that this opinion would still hold good. The mortality from operation was three per cent., to say nothing of the ankylosis which often resulted.

Dr. Willy Meyer had seen quite a number of cases of patellar fracture at Bonn in which operations had been performed. These patients could walk perfectly without the slightest stiffness of the joint. He thought, where it was important that a patient should be out again as soon as possible, wiring ought to be done, and that, under strict antiseptic precautions, the joint might be opened with perfect impunity.

The Chairman said that, even if antiseptic methods had failed, the operative procedure had not done so if one was to believe the unimpeachable evidence of the cases presented by Dr. Fluhrer and Dr. Willy Meyer, which were brilliant illustrations of its efficacy.

Dr. Bull appreciated the benefits of the operative treatment so far as concerned the functional results, and admitted that it placed the joint in better condition in case of refracture, but it was not a method of treatment which could be safely intrusted to the hands of the profession generally. He thought the method detailed by Dr. Stimson one that merited persistent trial. He had found that many of the contrivances for approximating the fragments only pulled on the skin, and he relied on a simple roller bandage as sufficiently effective.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting of February 7, 1890.

Dr. George Armstrong in the Chair.

Aneurysm of the Transverse Arch of the Aorta.—Dr. Wyatt Johnston exhibited a fresh specimen of an aneurysm involving the transverse part of the arch of the aorta. The sac, which was of about the size of a large orange, contained but a thin deposit of fibrin, and this substance spread itself over the aperture of the left subclavian artery so as to interfere with the current of blood through that vessel.

Dr. R. L. MacDonnell said that the patient from whom this aneurysm had been taken had been under his care in the Montreal General Hospital since last October. He had been suffering from a severe cough for many months, and, thinking that it was due to some affection of the throat, he had applied to the throat department of the hospital, where paralysis of the left vocal cord had been diagnosticated and the patient had been sent to the medical wards. Here other symptoms and signs of aneurysm were discovered. The pulse at the left wrist was almost obliterated and showed, as might be seen in the tracings exhibited, a most distinctly aneurysmal character. There was a characteristic brassy cough, and attacks of pain in the chest; a dull area under the innermost two inches of the left clavicle over which a systolic murmur was heard; most distinct tracheal tugging; the breathing was at times loud and labored. The left pupil was somewhat contracted. The most interesting feature in the case was the connection between tracheal tugging and pressure on the left bronchus and bifurcation of the trachea. He had reason to believe that this sign when present could only be produced by an aneurysm in that situation, and in cases where tugging was absent the pressure had been elsewhere or the aneurysm had been consolidated, and he was surprised to find that in a discussion on the diagnosis and treatment of aneurysm of the aorta, recently held in London, tracheal tugging had never been mentioned.

Aneurysm of the Thoracic Aorta.—Dr. MacDonnell exhibited some photographs of a patient who had been under his care in the Montreal General Hospital for the last month. The case had been reported two years ago.* An aneurysm of the descending arch had produced, it was thought, localized sweating of the left side of the chest. The patient had done very well for a long time under the constant use of iodide of potassium. About two months ago pain became very severe and he was admitted to the medical wards. At that time there was no bulging, but a dull area four inches in extent lying between the left scapula and the midline pulsated visibly. After admission the pain and distress disappeared, but the pulsating area began to bulge. In five weeks this bulging tumor grew to be thirteen inches long and five inches wide, protruding from the surface about two inches. It resembled in outline a large Bologna sausage lying just underneath the skin and pulsating throughout. Death occurred from exhaustion. Unfortunately, the surviving relatives absolutely refused an autopsy.

A Ruptured Urethra was exhibited by Dr. James Bell. The patient had suffered from retention and had been under treatment in the city. An unsuccessful attempt to pass a metallic instrument had been made before admission. On his arrival a filiform bougie had been passed and allowed to remain. Death ensued in thirty-six hours, evidently from urine fever.

Death following Internal Urethrotomy.—The bladder and urethra from a patient of Dr. Bell in whom an internal urethrotomy had been performed were exhibited. The man had come to the hospital with retention. On the following day the operation was performed, and it had been followed by a rapid rise of temperature, suppression of urine, coma, and death. The kidneys were found to be the seat of tubercular disease.

Dr. Bell also exhibited the bladder and urethra from an elderly man in whom a fracture of the neck of the femur had recently occurred. There was a chronic urethritis, the canal being filled with a grayish material. The mucous membrane of the bladder had undergone a diphtheritic change and the viscus was lined with a thick grayish substance.

An intracapsular fracture from the same patient was likewise shown.

Appendix Disease.—Dr. Shepherd exhibited an appendix vermiformis which had been removed from a patient, aged twelve, who had been suffering from acute appendicitis. The boy had died three days after the operation. The speaker attributed the death, which resulted from general peritonitis, to the fact that ether anæsthesia was relinquished a little too soon, and in a struggle the bowels were suddenly protruded through the wound.

Dr. Blackader, in whose practice the case had occurred, related the family history of this patient. There had been in all nine children, four of whom had died before reaching the age of twelve and two had died of appendicitis. The same lad had had localized peritonitis three years ago, and his mother had died of ante-partum peritonitis.

Abdominal Section in Tuberculosis of the Peritonæum and Uterine Appendages.—Dr. William Gardner read a paper on this subject based upon a report of five cases in which abdominal section had been performed.

Case I. *Large Collection of Fluid in the Abdomen simulating Ovarian Cyst.*—The operation had revealed tubercular peritonitis with a large encysted collection of sero-purulent fluid. Temporary relief had been obtained at first, but cough and expectoration had set in and death had occurred in six weeks after operation. There was general tuberculosis and matting of the intestines and pelvic viscera.

Case II. *An Acute General Peritonitis which became Chronic.*—Pain, constipation, and vomiting had been present and a nodular tumor-like mass had occupied both abdomen and pelvis. On opening the abdomen, tubercular peritonitis had been made evident. After the operation there had been decided temporary relief to all the symptoms. Death had occurred six weeks after operation.

Case III. *Pelvic Symptoms following Confinement, with Repeated Attacks of Inflammation.*—At the time of operation (three years after confinement) there had been complete invalidism from pelvic pain, profuse, prolonged, and overfrequent menstruation, and a variety of reflex symptoms with the physical signs of chronic inflammation of the uterus and its appendages. Abdominal section had revealed double pyosalpinx and cystic disease of one ovary, with dense adhesions. Convalescence had been slow but steady. Fourteen months after the operation there was still improvement. The parts removed were thickly studded with miliary tubercle.

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* In the American Journal of the Medical Sciences, March, 1888, and also in Braithwaite's Retrospect, 1888.

Case IV.—An unmarried woman, aged twenty-two, had had marked pelvic and abdominal pain, feeble digestion, weak circulation, and impaired nutrition, all dating from a distinct attack of inflammation which had occurred three years ago. There had been no evidence of fluid in the belly, the uterus was fixed, and there were tender fixed retro-uterine masses. When the abdomen was opened the intestines had been found adherent to the parietes, and united in a matted mass with the pelvic contents. Miliary tubercle was present in unusual abundance and could easily be felt through the incision. The wound was closed without further interference. Recovery was slow. Four months after the operation the patient's condition was so good that she was able to walk and drive, and enjoyed sound sleep and good appetite.

Case V.—A married woman, aged twenty-six, the mother of two children. Since the birth of the first, pelvic symptoms had been present. On the 18th of August last there was a miscarriage, which was followed by pelvic inflammation, fever, and general invalidism. On admission to Dr. Gardner's private hospital there were pelvic pain, painful defecation, slight evening fever, perspiration, marked emaciation, and long intervals between each menstrual flow, which was profuse and prolonged. There was hardness of the abdomen, but no distension. The uterus was retroverted, enlarged, and fixed; the cervix was deeply lacerated and granular. A round, smooth, tender mass was felt at the left of the uterus. After six weeks' treatment of a palliative kind, abdominal section was practiced, and conditions were revealed identical with those found in the last case. There was a general adhesion of everything that could be seen or felt, and miliary tubercle was thickly sprinkled everywhere. The incision was closed, and uneventful recovery ensued. The patient was still under observation. There was great improvement, both general and local.

Of these cases, none had been fully diagnosticated, but the condition had been stumbled upon in the operation. The results had been various, as had been the case with other operators. In some the disease had run its course with partial relief to symptoms, while in others great relief and improvement of health had followed, but it would be too much to say that it resulted from the operation. Undoubted cases of recovery had been reported; for example, that of the historical patient operated upon by Sir Spencer Wells in 1862, who was at present alive and well. Where disease of the uterine appendages also existed, the cases were not so old, since it was only within recent times that operations had been performed for the relief of the diseases of these organs. A number of patients thus treated were reported to be comparatively well several years after operation. If the German theory was true that the parent of tubercle, wherever it might be, was some cheesy mass or degeneration, then we were furnished with a strong argument for removing early conditions with suppuration in the pelvis, which, in those who were predisposed, might lead to the development of peritoneal tuberculosis. The results of abdominal section in such conditions might justify the following conclusions: 1. The hitherto accepted universally unfavorable prognosis of tubercular peritonitis must be revised as a result of what we had learned by abdominal section. Recovery had taken place in a goodly number of cases after operation, and probably also in some not so treated. 2. Cases III, IV, and V afford some evidence in favor of the theory that a cheesy deposit, the result of suppuration, was the parent of tubercle wherever found. 3. In the cases alluded to, the origin of the disease was probably in the inflammatory disease of the uterine appendages. 4. In certain strongly disposed subjects the early removal of such possible foci of tubercle was urgently indicated. 5. Abdominal section, in these as in less serious conditions, had, with proper precautions, been shown to be a recoverable operation in such a large proportion of cases as to justify its performance to clear up the diagnosis of doubtful cases. 6. In a certain number of cases operation might with some reason be fairly said to have been beneficial.

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

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Ichthyol in Dermatological Practice.—Kopp, of Munich, thinks (Münch. med. Woch., 1889, No. 35) that ichthyol has been too enthusiastically extolled as an external remedy, and that its chief use is for internal medication. Strong lotions and ointments of the drug often produce irritation and artificial eczema; such effects may follow even weak preparations in certain subjects. On the contrary, very large doses up to seventy-five grains a day can be used with impunity. The preparation used in the cases detailed—one hundred and seventy-five in number—was the ammonio-sulphate, either in pills each containing one grain and a half, or externally in vaseline or lanoline ointments, dextrine pastes, or tinctures or lotions. Kopp's conclusions are as follows: 1. The external use of ichthyol appears to be beneficial in many acute and chronic inflammatory affections of the skin, especially in rosacea, dermatitis calorica, erysipelas, and many forms of eczema. In all other dermatoses its effect is either purely palliative or negative, while in not a few cases it proves irritative and harmful. 2. The internal use of ichthyol in pill form is beneficial in a great many dermatoses dependent upon disturbances of the digestive apparatus and of the general nutrition. This result is indirect, and due to the action of the drug upon the disease process underlying the dermatosis. 3. The ignorant prescribing of the drug both for internal and external use is not without danger. 4. The objections to ichthyol are its disagreeable odor and taste. In most skin affections, even in those in which the effect of the drug is favorable, as good results can be obtained in a more agreeable and less expensive way by means of other means.

A Sulphonal Exanthem is reported by Dr. Merkel, of Nürnberg (Münch. med. Woch., 1889, No. 26), which consisted in a symmetrical eruption of small macules of scarlet color, beginning in the axillary and inguinal folds and spreading upon the outer surface of the shoulder and arm and upon the thigh, the macules running together and forming large red patches. The exanthem faded slowly, and ended by desquamation. It appeared after the ingestion of about seventy-five grains of the drug in as many days.

General Exanthems of the Skin attended by Redness and Scaling.—Brocq, the prolific writer *par excellence* of Paris, gives us now (Monatshft. f. prakt. Dermat., 1889, No. 7, p. 293) a study of that disease we have been quite content to name "pityriasis rubra," and shows us that we are quite mistaken in thinking that we knew such an entity, and that, instead of there being one pityriasis rubra, there are three distinct diseases, viz.: 1. Pityriasis rubra pilaris, a disease that "the Americans call lichen ruber." 2. Pernicious lymphoderm of Kaposi, probably including some general eczematous varieties of mycosis fungoïde. 3. A general exanthem attended by redness and scaling due to artificial causes, mostly from medicaments; a very large group. Besides these three we have two other groups, viz.: 4. That acute general eruption coming in the course of eczema, psoriasis, and lichen planus. These are distinguished by occurring in the course of other diseases, by having a short irregular course, and by being, usually, not universal. 5. "Herpétides exfoliatives" of Bazin. This, like the preceding group, comes on after some other eruption, but differs from it in being chronic in its course, universal in distribution, and ultimately profoundly affecting the patient's general health and carrying him off by general marasmus and chronic diarrhœa. All other varieties of exanthem attended by redness and scaling we may regard as pityriasis rubra; but even then we can make out five forms of pityriasis rubra—

namely: 1. Erythema scarlatiniforme desquamativum, or the benign, acute, scaling dermatitis, which begins suddenly with fever and the outbreak of an intense red upon the general integument which lasts from two to six weeks and ends by abundant, dry, lamellar desquamation, which commences before the redness fades. The hairs and nails may fall, but usually they remain intact. It is prone to relapses. Most of the cases described by this name are drug eruptions. 2. A peculiar general scaling dermatitis, or the subacute form, which runs a regular course with fever in its early stages, beginning suddenly or gradually spreading from one or more red and itchy macules, so as to involve the whole body in from two to ten days. At its height the whole or greater part of the integument is intensely red, slightly thickened, and looks as if stretched. A few days after the redness, scaling begins in the form of dry mother-of-pearl lamellæ of varying size, which in some places give the appearance of a shingled roof. This is attended by fall of the hair, and often of the nails, which are always altered and furrowed. Moisture may be present in the joint folds; bullæ, pustules, furuncles, seborrhœa, lichen pilaris may complicate matters. Itching, burning, and heat are complained of while the skin is covered, and cold when uncovered. Conjunctivitis, coryza, stomatitis, and glossitis mark the involvement of the mucous membranes. Its course is from three to twelve months or more, and it may end fatally. 3. The chronic form of the general scaling dermatitis, which begins as a slowly spreading eczema and develops with great deliberation into an intense general redness and infiltration of the skin, and continuing, becomes scaly and is accompanied by apyrexia or slight fever, and causes fall of the hair, disease and fall of the nails, swelling of the glands, abscesses, blindness, and deafness. At last there is a period of recovery, when the redness fades, leaving brown pigmentation. 4. Pityriasis rubra chronica of Hebra. 5. A subacute or benign form of pityriasis rubra.

The Treatment of Eczema in Children.—This ever-interesting subject is once more discussed by Saalfeld, of Berlin (Archiv f. Kinderheil., 1889, xi, 117). Eczema intertrigo about the genital and anal region is especially frequent in fat children, and is usually associated with digestive disturbances demanding the regulation of the diet before anything else. Locally the most grateful and healing application is composed of equal parts of a five-per-cent. solution of boric acid and lead-water applied on pieces of muslin or linen, and changed every time the diapers are changed. The acute inflammation usually ceases at the end of the second day, when a five-per-cent. ointment of boric acid in vaseline should be substituted for the lotion, painted on with a brush and then covered with the ointment spread on a cloth. If there is a good deal of moisture present, the parts should be powdered with talc or equal parts of talc and zinc oxide, and covered with cotton powdered full of the powder. The diapers should be changed frequently, and the old powder, if wet and caked, removed before new powder is applied. In fat children with eczema of the head the supply of fat in the food must be lessened, the frequency of nursing being reduced. If constipation is present, small doses of calomel may be given, or resort had to the soap suppository. Locally all crusts are to be removed by soaking in oil, this being frequently renewed to prevent its becoming rancid, and removed with soap and water. If much exudation is present, Lassar's paste, with boric acid five per cent., or the benzoated oxide of zinc ointment may be used. If there is not much exudation, a simple five-to-ten-per-cent. boric-acid ointment will do well. If the squamous stage presents, then an ointment of fifteen grains of white precipitate, sixty-five grains of balsam of Peru, and an ounce of zinc-oxide ointment will soon complete the cure. The skull-cap of linen is a necessary adjunct to this treatment. It is well to bind up the hands to prevent scratching. In general eczemas of strumous children either phosphorus in cod-liver oil or arsenic must be administered. In all cases of general eczema the body must be smeared with vaseline, powdered thickly, and covered with a fine linen shirt. The procedure is to be repeated four or five times daily. Upon the limbs a bandage may be substituted for the shirt. Water must be kept away from all eczematous skins.

The Eczema Seborrhoicum of Unna.—A careful study of this disease has been made by Gamberini (Giorn. ital. del. mal. ven. e del. pelle, 1889, xxiv, 182). After reading Unna's description of the disease and its pathology he doubts if it should be regarded as a distinct disease. To decide the question, he appeals to the great authorities who have written upon the pathology of eczema and the functions of the cutaneous glands to ascertain what part and how great a part the sebaceous and sudoriparous glands may play in eczema. Hebra makes no mention of these glands being affected in eczema. G. Simon speaks only of an aqueous inflammatory extravasation, and adds that vesicles form about the mouths of the hair follicles, but not constantly. T. Fox describes the cutaneous capillaries as being in a condition of congestion, and the various layers of the skin in a state of inflammation, but says nothing about the glandular apparatus. Kaposi says that eczema is an inflammation of the skin with serous exudation. Cazenave maintains that eczema begins as an inflammation of the sweat glands and that the vesicles are developed from these on account of a stopping up of their ducts and a swelling of them in consequence. This is the pathology of Bazin, but it is denied by Biett, Vulpian, Leloir, Renaut, Ranvier, and others. Hardy likewise disagrees with Bazin, and teaches that the mucous layer of the epidermis is the chief seat of the disease. Unna, as set forth by his student, Tommasoli, teaches that eczema seborrhoicum consists in a more or less pronounced and circumscribed inflammation of the skin, and an anatomical and functional alteration of the sweat glands and their ducts; he also says that to these glands is intrusted the production of fat, from which, in the evolution of eczema, proceeds the hypersecretion of fat which penetrates the whole skin and epidermis, injects the lymph channels, and produces the fatty crusts. He further says that the sebaceous glands are stopped up by a corneous mass proceeding from the cutaneous inflammation and pushing down into their ducts; that these glands show no sign either of hypersecretion or hypertrophy, and therefore that the eczematous affection cannot originate in them. It is noticeable that no one of these writers describes any disease of the sudoriparous and sebaceous glands themselves, and it would seem proper to conclude that neither of them has any primary influence in producing the disease, and that they are affected secondarily, if at all. Many experiments and investigations on the part of Gamberini as to the sweat glands secreting fat have proved negative. The locality assigned to eczema seborrhoicum does not change its eczematous nature, because upon all the body surface we have both sebaceous and sweat glands excepting on the hands. In the description of the disease there are no diagnostic signs to exclude it from eczema in general; those that are given are quite common in chronic eczema, especially in those of strumous habit. The treatment advocated by Unna does not prove his thesis. The character of the crusts formed corresponds quite closely to those of impetiginous eczema, while one would think that they should be composed of a large amount of sebaceous matter. Instead of calling the disease a seborrhœal eczema, it might better be called, if named it must be, an eczematous seborrhœa, as the eczema is always secondary to the seborrhœa.

Acne Frontalis.—Pick reports (Archiv f. Derm. u. Syph., 1889, xxi 551) two cases of acne of peculiar nature. The first corresponds t the acne varioliformis of Hebra, and the second to the acne necrotic of Boeck. It is doubtful whether these two forms of acne frontali are forms of the same disease or distinct diseases. The characteristics of *acne varioliformis* are the following: It affects the forehead especially along the margin of the hair, but may affect the hairy scalp in the form of a more or less copious eruption of pin-head to lentil sized, reddish-brown papules, which bear upon the central points a dry brown crust. The crust adheres closely, and seems sunk into th papule by which it is surrounded. If the crust is removed, it will reveal a loss of substance, with the edges of the top of the papule overhanging. Some papules have an inflammatory halo. Here and ther will be found brownish-red cicatrices. The lesions are not in relatio to the hair follicles, nor are comedones found. The lesions bear striking resemblance to those of variola. The crust adheres for a lon time, and when it falls it leaves a cicatrix. *Acne necrotica* affects th whole face, excepting the forehead, lips, and lids, and occurs in th form of closely-grouped papules of the diameter at the base of four t five millimetres, which are separated from each other by furrows, a glossy, and of pale-red or yellow color. In the depths of the grou violet points and stripes are seen. After a time the papules bear up their summits dry, brownish-red crusts, covering a faint loss of su stance. By the coalition of many papules, large crusts are form upon a reddened, infiltrated, and eroded corium. A study of the symptoms indicates that acne varioliformis and acne necrotica run quite different courses.

The Follicular and Circumfollicular Dermatitis of Spinners and Tacheurs.—This species of professional dermatis is described by Leloir (Annal. de derm. et de syph., 1889, x, 672), who says that it is not the eczema of the workers in flax that he described in 1885. The affection is seated upon the legs, is symmetrical, and occurs particularly upon the anterior middle region of the thighs. This is the region which is brought most in contact with the trousers wet with the irritant. The calf is next most often invaded. In very bad cases the posterior part of the thighs may be attacked. More rarely the upper extremities are likewise affected—such as the posterior lateral region of the forearm and at times the elbows and the lower half of the posterior region of the arm. That the arms escape so generally is due to the workmen working with their sleeves rolled up, and more often washing their arms than their legs. The eruption is a disseminated inflammation of the hair follicles. At first the follicles are more prominent than usual, looking like "goose-flesh." Each is pierced by a hair, or has a black point, which is the plugging up of the follicle by the mixture of oil. Soon the follicles become inflamed and form pin-head-sized papules, violaceous or brownish-red in color, conical in shape, with the black plug in the center. Often there will be a minute greenish collarette about the point, showing a process of suppuration which sometimes will at last throw out the point. The papules last several days, dry up, and leave a scale or crust about the orifice of the follicle. Sometimes excoriations from scratching will be observed. Sometimes the lesions may become furuncular and sometimes ecthymatous. Pruritus is constant and often intense, and, if the patient scratches freely, eczema may complicate matters. About five out of every ten workmen have the disease. Those who naturally have the roughest skin have the disease worst. The eruption is very rare in those works where the men wear special clothes for working and wash themselves frequently. It usually disappears when the workman stops his work for a few days. The cause of the whole trouble is the oil used in the work—that is, petroleum, naphtha from Russia, and mineral oils, such as the "boghead" of Scotland and the schist of France. The treatment is prophylactic.

The Ætiology and Treatment of Sycosis.—Rosenthal, of Berlin, (Deutsche med. Woch., 1889, xv, 459), says that many of its supposed causes have no foundation in fact. Catarrhal conditions of the nose, whether in strumous subjects or not, are very often exciting causes of the disease. In many cases no plausible explanation for the appearance of the disease can be found. This gives occasion for a number of theories—such as the hair being too large for the follicle, an error in the process of hair-fall and regeneration, and the entrance of staphylococci into the follicles—neither of which is considered as proved. In the treatment of the disease, shaving and epilation are advised, while the use of the sharp spoon is advised against. After the daily shaving and once or twice besides, the patient should rub into the skin an ointment of tannic acid, fifteen grains; sulphur, thirty grains; and vaseline, five drachms. At night he is to bind upon his face either a salicylic-acid paste, or Hebra's or Wilson's ointment. Or, instead of using two preparations, the following may be used: Tannic acid, seventy-five grains; sulphur, two drachms and a half; oxide of zinc and starch, of each one drachm and a half; vaseline, one ounce and a half.

Zoster Epidemics and the Ætiology of Zoster.—That epidemics of zoster do occur Kaposi is willing to believe (Wien. med. Woch., 1889, No. 25). He thinks that zoster, erysipelas, and pneumonia are all children of the same "genius epidemicus." Epidemics of zoster occur in Vienna in the spring and fall and with considerable regularity, while at other times sporadic cases of the disease occur. Because micro-organisms have been found to account for the appearance of pneumonia and erysipelas, Kaposi assumes a micro-organism in zoster, and believes it to be infectious because it occurs, like other infectious diseases, but once in a lifetime. He affirms that in some epidemics of zoster the manifestations of the disease are far more severe than in others. He can offer no explanation for the unilateral appearance of the disease—something that we would not expect in an infectious disease.

Zoster Gangrænosus and Zoster Hystericus are two new terms introduced by Kaposi (Archiv für Derm. u. Syph., 1889, xxi, 561). Four cases of atypical zoster are reported. They were all marked by ulceration and were followed by keloidal cicatrices. The loss of substance was similar to that which results when caustic potash or nitric acid attacks the skin. But in zoster the change begins in the papillary layer of the skin and in the corium before the epidermis is affected. It is not the same process as has been before described as spontaneous gangrene of the skin, as there the process is superficial and is marked by relapses continuing over a great length of time. Here we have also a characteristic grouped efflorescence and a self-limited course, so that in from four to eight days the eruption is at an end, and only the effort at repair remains. The only objections to calling the disease zoster are that it is liable to relapse, it does not correspond in location to the course of any spinal nerve, nor to that of the trigeminus, and it is bilateral. Still, relapses do occur, though rarely, in zoster, and zoster does occur bilaterally. It is probable that in these cases not only were the spinal ganglia diseased, but also the vaso-motor centers of the spine, and probably of the brain. Hence the name "hystericus."

Pseudo-leucæmia Cutis is a very uncommon disease, and Dr. Joseph does well in giving us (Deutsch. med. Woch., 1889, No. 46, p. 946) an account of a case. It affected an artisan who had previously been in good health, and began as a number of small tumors, glandular swellings in the neck, shortly after which the patient began to suffer greatly from pruritus. Then the lymphatic glands of the inguinal region and axillæ became greatly enlarged. Scattered over the body was an eruption of hemp-seed-sized papules which were easier felt than seen; they were disseminated, pale red, and covered with unaltered epidermis. They spared no parts. Wheals were also present and changed into papules. The skin between the papules was dark-colored, thickened, and dry. Here and there were pea-sized papules. The disease showed a chronic course marked by relapses.

Multiple Cavernous Angeiomata.—A case of this rare disorder is studied by Hildebrand, of Göttingen (Deutsch. Zeitschrift f. Chirurg., 1889, xxx, 91). The patient was twenty-one years old, a woman. The disease was first noticed when she was three years old as a blue tumor on the ball of the left thumb. It gradually enlarged, and new tumors developed on the forearm, arm, shoulder, and neck. The whole thumb was finally involved in a hard, firm, blue and gray tumor, which became smaller when the limb was raised. The tumors were all extirpated, and healed nicely. The thumb had to be exarticulated. It was found that the tumors had all developed in the subcutaneous tissue, and only that of the thumb had pushed into the muscles and into the skin. The rest had well-marked though thin connective-tissue capsules, from which processes went off into the tumors forming their mesh-work, which varied in amount in different tumors. The septa were furnished with blood-vessels. The meshes contained blood; some had phleboliths. No direct relation was found between the tumors and larger blood-vessels, but quite a large number of small arteries entered them. They were all on the flexor side of the arm, and three were found in relation with large subcutaneous veins. The vein was alongside of the angeioma and gave off to it a small branch. Opposite to its point of entrance there was a vessel of the same size emerging from the tumor, which was an artery, so that the angeioma lay between an artery and a vein, being supplied with blood by the former. As the artery approached the tumor it widened out, and its outer wall became the capsule of the tumor and its inner wall the partition walls of the tumor.

The Ætiology of Purpura Hæmorrhagica.—Letzerich has published a brochure (Leipzig, 1889) upon this subject which is noticed in the Monatshft. f. prakt. Dermat., 1889, No. 7, p. 312. He asserts that the disease is contagious and that it is due to a special form of bacillus, which he dubs "bacillus purpuræ hæmorrhagicæ Letzerich," and describes as having sharp angles and edges and as growing in the blood like the "Milzbrand bacillus." They are easily cultivable from the blood of the petechiæ, and pure cultures injected into rabbits give rise to hæmorrhages spontaneously and upon slight trauma. A hyaline thrombus full of bacilli and spores was always found at the site of the bleeding, in the center of which and around it were red and white blood globules.

A Case of Xanthoma Multiplex complicated with Disease of the Liver is reported by Dr. Polyak (Wien. med. Presse, 1889, No. 30). The xanthomata appeared about eight months after the beginning of the "hepatitis interstitialis hypertrophica." It did not appear upon the eyelids, but began upon the neck. It assumed both the flat and raised forms.

The Histology of Lupus Erythematosus.—A voice from Schweninger's clinic in Berlin, that of Dr. Miethke, proclaims (Monatshft. f. p. Dermat., 1889, ix, 348) that lupus erythematosus begins in the connective tissue as a circumvascular infiltration in the papillæ, spreads into the corium, and attacks especially the neighborhood of the sebaceous glands. Degeneration and disintegration follow rapidly upon infiltration, and this accounts for the early production of cicatrices. While the infiltration is taking place in the corium, hyperplasia of all the layers of the epidermis occurs, and an aberration in the process of cornification. No micro-organisms are found.

Leprosy in Kashmir is the subject of an interesting paper by Dr. Neve (Lancet, 1889, ii, 900 *et seq.*), who studies the disease chiefly on its ætiological side. He finds a preponderance of males, only sixteen per cent. being females. The largest number of cases belong to the herdsmen of the country. It is very rare that more than one member of a household is affected, and the children often escape. There were no cases of leprous fishermen on his list, which looks bad for the fish theory of the disease. Contagion can not be demonstrated easily, yet the cases do occur in groups. No instance of transmission by inoculation can be found. It is possible that the food or drinking-water may become contaminated with the "bacillus lepræ," and thus cause the spread of the disease.

Pityriasis Rosea.—This infrequent disease has been newly studied by Barduzzi (Giorn. ital. del. mal. ven. e. del. pelle, 1889, fasc. i, p. 27), who proposes the name of roseola pityriaca for it. He has observed that the prodromal febrile symptoms were seldom absent, and that during the same period the patient felt ill, had no appetite, and suffered with intense headache. Itching, or a feeling of heat, burning, or pricking is generally experienced intermittently and localized specially at the points of contact of two folds of skin. The patches enlarge rather rapidly. The eruption proceeds from the upper part of the body downward. The primary lesion is a miliary or small papule surrounded by an erythematous zone. This enlarges and becomes circular or elliptical and attains the size of a silver dollar (five-franc piece). The center of the patch is of a pale yellowish red and somewhat shiny, and its periphery is of a deeper color than the center. Furfuraceous desquamation commences at the center of the patch and stops at the periphery, which for a long time presents a fringe of frayed epidermis. The confluence of two or more patches will form figures of all sorts of shapes—discs, circles, semicircles, and the like. Recovery begins at the center of the patch by the scaling coming to an end and the disappearance of the yellow color to be replaced by the normal color of the skin. The rosy hue of the halo is preserved for a time, as well as the desquamation of the periphery of the patch. Gradually these two disappear, and there is left the very slightest amount of pityriasis. The tactile sense seems to be somewhat lessened in the center of the patches. The disease tends to complete recovery in a definite period of between three and four weeks, just like the exanthematous fevers. It is diagnosticated from the macular syphilide by a complete absence of all other signs of syphilis, and from ringworm, favus, and chromophytosis by the absence of the fungus proper to each of those diseases. The disease is probably parasitic. No active treatment is needed. Starch baths, plain diet, alkaline diuretics, and a saline cathartic, if necessary, is about all that can be done.

The Treatment of Tinea Tonsurans.—Dr. Purdon, of Belfast, recommends (Dublin Jour. of Med. Sciences, 1889, ccxiv, 299) in ringworm of the scalp an ethereal tincture of croton-seeds containing salicylic acid (strength not given). His theory of its beneficent action is that the croton tincture acts the part of an irritant, the ether dissolves the fat and promotes absorption, the salicylic acid kills the fungus, and the gum mastic contained in the tincture creates a varnish-like film that excludes the air from the diseased patch, thus preventing suppuration and lessening the risk of obliteration of the hair follicles. (How beautiful!)

A Rare Form of Trichophytosis.—During an epidemic of ringworm in Genoa, Dr. Mazza has observed five cases of disseminated area-like ringworm, and now (Giorn. ital. del. mal. ven. e del. pelle, 1889, xxiv, p. 168) reports upon them. The areas were disseminated without any particular arrangement over the head. They were round in form and of a color darker than the normal skin—a color that could be made to partially disappear under pressure. They were partially denuded of hair, and showed a number of "stumps" loaded with spores. Each area was small—none much larger than a five-cent piece. Occasionally two areas ran together and formed one large one. Reynold's cataphoric treatment by electricity was employed. After these sittings the areas treated became red, turgid, and painful, and covered with pustules, so that the treatment had to be interrupted. The areas were then treated antiphlogistically, disinfection and protection being combined. Many of the spots promptly returned to their normal condition.

Favus.—Dr. Fabry gives us (Archiv f. Derm. u. Syph., 1889, xxi, 431) a study of favus from its clinical and ætiological side. For the study of the fungus in its early stage of growth the Weigert method of staining is recommended. In the cultivation of the fungus it was found best to transfer to the culture medium very young scutula, just as they become visible to the naked eye or by the aid of the microscope. After careful preliminary disinfection by means of soap and water and bichloride solution, the scutulum is loosened up and removed by means of a red-hot platinum needle. For culture media the best were found to be solidified and sterilized blood serum and hydrocele fluid. In a pure culture of the fungus, taken from a case of favus of the cheek, the fungus was found to correspond to that denominated by Quincke the γ-fungus, even though the same author states that that form of fungus is never found in favus herpeticus, and never causes it. Inoculation of the pure culture upon our author's arm produced favus, which was preceded for some days by herpetic vesicles, indistinguishable from those of trichophytosis. The α-fungus was nowhere to be seen. It is probable that the γ-fungus is the common cause of favus.

General Directions for the Treatment of Syphilis.—Fournier again advises (Gaz. des hôp., 1889, No. 103) withholding mercury until we are sure that the chancre is a true initial lesion. Once begun, the mercurial treatment is to be kept up continuously for a number of years, with occasional interruptions of one to two months. This latter method will prevent tertiary accidents in from ninety to ninety-five per cent. of the cases. The proper length of time during which mercury is to be taken varies with the cases. Some patients never get well, are subject to constant relapses, and need to be treated all their lives. In most cases two years *at least* must be devoted to the administration of mercury; better, three or four years. After leaving off mercury, iodide of potassium should be administered, with alternating intervals of complete absence of medication. During the first year of iodide administration four courses are to be taken, during the second and third year three. His usual method of treatment is the following: On the appearance of secondary symptoms he prescribes five to ten centigrammes of the protiodide of mercury a day during six to eight or nine weeks. Then a pause of six weeks is made, and another six-weeks course is taken. During the first year four courses are gone through with, during the second three, and during the third two, after which the potassium iodide is given, forty-five grains a day for six weeks, and then pauses as already indicated. In the meanwhile general hygiene and tonic treatment is not neglected.

The Treatment of Syphilis by Hypodermic Injections of Thymol-mercury.—Wellander, of Stockholm, commends (Archiv f. Derm. u. Syph., 1889, xxi, 453) for the treatment of syphilis by hypodermic injections an acetate of thymol-mercury (essigsaures Thymolquecksilber). He has found it preferable to the salicylate of mercury or calomel. Injections of it are much less painful than those of calomel, and less frequently cause abscesses. More mercury can be introduced by it in a given time and without disagreeable effects than by using the sublimate. By using it, the daily visits of patients is avoided. He made the injections in different parts of the buttocks.

"**Wasting Secondary Syphilide,**" with the subtitle of "Abdominal Streaks," is the theme of Dr. Coulhon in the Gaz. des hôpitaux, 1889, No. 58. The disease consists in the appearance of small linear, violaceous patches in certain locations, which, after a certain time, disappear and leave behind white marks similar in all points to the lineæ albicantes of pregnant women. They are also produced by the tearing apart of the elastic fibers of the skin, with thinning of the skin, but without atrophy. In this they differ from the usual syphilides, which leave atrophic spots. They differ further from the lineæ albicantes of pregnancy in being symmetrical and in beginning as violaceous spots. These should not be regarded as syphiloderms proper, but as due to a profound disturbance of the general nutrition dependent upon the syphilitic infection and showing itself specially in the skin.

Miscellany.

Circular of Information for Medical Men who may be desirous of entering the United States Army Medical Department.—The Surgeon-General has issued the following circular:

The Medical Department of the Army consists of one surgeon-general with the rank of brigadier-general; one assistant surgeon-general, one chief medical purveyor, and four surgeons with the rank of colonel; two assistant medical purveyors and eight surgeons with the rank of lieutenant-colonel; fifty surgeons with the rank of major; and one hundred and twenty-five assistant surgeons with the rank of first lieutenant of cavalry for the first five years of service, and of captain of cavalry subsequently until their promotion by seniority to a majority.

With the rank stated in each case the pay and emoluments of the rank are associated. The salary of each grade is a fixed annual sum payable monthly; but at the end of each period of five years of service the annual sum representing the pay of the grade is increased by ten per cent. until forty per cent. is added. After twenty years of service the forty per cent. additional continues to be drawn, but the further increase of the pay by ten per cent. additions ceases—*i. e.*, an officer, although he may have served twenty-five or thirty or more years, can, under existing laws, have no more than forty per cent. added to his pay proper by way of increase for length of service. The pay of a first lieutenant of cavalry, or of a medical officer during the first five years of his service, is $1,600 per year, or $133.33 per month. At the expiration of his five years of service he becomes, by virtue of that fact, a captain, and his pay is that of a captain of cavalry, $2,000 per year, increased by ten per cent. for his years of service—viz., $2,200 annually, or $183.33 monthly. At the end of his tenth year of service this rate of pay is increased by the service-addition to $2,400 annually, or $200 per month; and after five years more the service-addition makes his pay $2,600 annually, or $216.67 per month. If he continue in the rank of captain, at the end of twenty years of service his monthly pay becomes $233.33; but about this time promotion to a majority is usually obtained, and a major's annual pay of $2,500, with forty per cent. added, makes the monthly pay of the major and surgeon $291.67. Subsequent promotion, investing the individual with the rank of lieutenant-colonel, colonel, and brigadier-general, augments the monthly pay respectively to $333.33, $375.00, and $458.33. Compulsory retirement at the age of sixty-four years increases the rapidity of promotion to the younger men; and when retirement is effected either by age, or by the accidents of service prior to reaching the retiring age, the rate of pay subsequently drawn is seventy-five per cent. of the total salary and increases of the rank held by the individual at the time of his retirement. Thus, a major retired for broken health after twenty years' service draws seventy-five per cent. of $291.67 per month; a colonel retired for age, seventy-five per cent. of $375.00. The medical officer has the right of selecting quarters in accordance with his rank, and when stationed in a city where there are no Government quarters, commutation money, intended to cover the expense of house rent, is paid to him. The Government provides forage and stable-room for the horses of the medical officer, and when traveling under orders the expenses of transportation are paid by the Quartermaster's Department.

Among the privileges granted to medical, as to other officers of the army, is that of leave of absence on full pay. The authorized leave amounts to thirty days annually. This leave is not forfeited if not taken during the year, but is credited to the officer, who may thus accumulate a continuous leave of four months on full pay. If he desires to be absent for a longer period than four months, and the permission is accorded him, he is reduced to half-pay for all time in excess of the four months or maximum of cumulated leaves of absence. Absence from duty on account of sickness does not affect the relations of the officer with the paymaster: he continues to draw full pay.

A commission in the Medical Department of the Army is an instrument which is good for life, premising conduct consistent with its retention on the part of its possessor; but it involves no contract which binds the individual to service for any given number of years. On the contrary, should the medical officer find on experience that civil life has greater attractions for him than that of the army, there is nothing to prevent him from at any time tendering the resignation of his commission.

A young medical officer on appointment is usually assigned to duty for a few months at some large post where there are other officers of his department, to afford him opportunity of becoming acquainted with the requirements of the army regulations and the routine duties of military life. After this he goes to some post west of the Mississippi River, where he serves a tour of duty of four years. An assignment in the East follows the leave of absence which is usually taken at this time; and in after years his stations are selected so as to give him a fair share of service at what may be called desirable posts as an offset to the time spent at less desirable stations.

Candidates for appointment to the medical corps should apply to the Secretary of War for an invitation to appear before the Army Medical Board of Examiners. The application should be in the handwriting of the applicant, should give the date and place of his birth and the place and State of which he is a permanent resident; it should be accompanied by certificates based on personal acquaintance from at least two persons of repute as to citizenship, character, and moral habits. Candidates must be between twenty-one and twenty-eight years of age (without any exceptions), and graduates of a regular medical college, evidence of which, the diploma, must be submitted to the board. The morals, habits, physical and mental qualifications and general aptitude for the service of each candidate will be subjects for careful investigation by the board, and a favorable report will not be made in any case in which there is a reasonable doubt.

The following is the general plan of the examination:

I. The physical examination will be rigid; and each candidate will, in addition, be required to certify "that he labors under no mental or physical infirmity, nor disability of any kind, which can in any way interfere with the most efficient discharge of any duty which may be required."

II. Oral and written examinations on subjects of preliminary education, general literature, and general science. The board will satisfy itself by examination that each candidate possesses a thorough knowledge of the branches taught in the common schools, especially of English grammar, arithmetic, and the history and geography of the United States. Any candidate found deficient in these branches will not be examined further. The examination on general science will include chemistry and natural philosophy, and that on literature will embrace English literature, Latin, and history, ancient and modern. Candidates claiming proficiency in other branches of knowledge, such as the higher mathematics, ancient and modern languages, etc., will be examined therein, and receive due credit for their special qualifications.

III. Oral and written examination on anatomy, physiology, surgery, practice of medicine, general pathology, obstetrics and diseases of women and children, medical jurisprudence and toxicology, materia medica, therapeutics, pharmacy, and practical sanitation.

IV. Clinical examinations, medical and surgical, at a hospital, and the performance of surgical operations on the cadaver.

Due credit will be given for hospital training, and practical experience in surgery, practice of medicine, and obstetrics.

The board is authorized to deviate from this general plan whenever necessary in such manner as it may deem best to secure the interests of the service.

The board reports the merits of the candidates in the several branches of the examination and their relative merit in the whole, according to which the approved candidates receive appointments to existing vacancies, or to vacancies which may occur within two years thereafter.

An applicant failing in one examination may be allowed a second after one year, but not a third.

No allowance is made for the expenses of persons undergoing examination, but those who are approved and receive appointments are entitled to transportation in obeying their first order assigning them to duty.

Copies of examination papers used by the board in session in New York city in October last are hereto appended as an illustration of the character of the questions submitted to candidates.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending February 28th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
Chicago, Ill	Feb. 22.	1,100,000	467	..	..	..	..	..	..	28	4	40	..	3
Philadelphia, Pa	Feb. 15.	1,064,277	385	..	..	..	..	..	..	19	..	11	1	2
Brooklyn, N. Y	Feb. 22.	852,467	349	..	..	..	..	..	1	2	9	31	..	1
Baltimore, Md	Feb. 22.	500,343	205	..	.	..	..	..	..	3	..	5	14	3
St. Louis, Mo	Feb. 8.	450,000	172	..	..	..	..	..	..	1	1	6	..	....
St. Louis, Mo	Feb. 22.	450,000	145	..	..	..	..	..	..	1	1	3	..	....
Boston, Mass	Feb. 22.	420,000	201	..	..	..	..	..	..	1	..	14	..	....
San Francisco, Cal	Feb. 15.	330,000	......	..	..	..	..	..	..	2	..	1	1	1
Cincinnati, Ohio	Feb. 22.	325,000	134	..	..	..	..	..	..	7	..	10	2	4
New Orleans, La	Feb. 15.	254,000	132	..	..	..	..	..	..	2	..	2	..	....
Washington, D. C	Feb. 8.	250,000	96	..	..	..	..	..	..	1	..	1	..	....
Detroit, Mich	Feb. 8.	250,000	54	..	..	..	..	..	..	..	..	4	..	1
Detroit, Mich	Feb. 15.	250,000	65	..	..	..	..	..	..	..	2	4	2	....
Pittsburgh, Pa	Feb. 15.	240,000	92	..	..	..	..	..	..	9	..	3	..	....
Pittsburgh, Pa	Feb. 22.	240,000	......	..	..	..	..	..	..	9	1	5	3	....
Cleveland, Ohio	Jan. 11.	240,310	135	..	..	..	..	..	..	7	3	5	3	3
Cleveland, Ohio	Jan. 18.	240,310	149	..	..	..	..	..	..	4	4	7	3	4
Louisville, Ky	Feb. 15.	227,000	63	..	..	..	..	..	..	1	..	..	..	....
Louisville, Ky	Feb. 22.	227,000	57	..	..	..	..	..	..	1	..	..	..	....
Milwaukee, Wis	Feb. 15.	210,000	63	..	..	..	..	..	1	1	1	4	..	1
Milwaukee, Wis	Feb. 22.	210,000	68	..	..	..	..	..	..	1	..	5	..	....
Minneapolis, Minn	Feb. 15.	200,000	42	..	..	..	..	..	..	1	..	6	..	....
Minneapolis, Minn	Feb. 22.	200,000	37	..	..	..	..	..	..	..	..	4	..	....
Newark, N. J	Feb. 15.	192,500	91	..	..	..	..	..	..	4	1	3	1	...
Newark, N. J	Feb. 22.	192,500	87	..	..	..	..	..	..	2	4	4	..	....
Providence, R. I	Feb. 22.	130,000	53	..	..	..	..	..	..	..	..	3	2	....
Indianapolis, Ind	Feb. 21.	129,346	37	..	..	..	..	..	..	..	1	2	..	1
Richmond, Va	Feb. 15.	100,000	35	..	..	..	..	..	..	..	..	..	..	....
Richmond, Va	Feb. 22.	100,000	36	..	..	..	..	..	..	..	..	..	..	....
Toledo, Ohio	Feb. 22.	92,000	27	..	..	..	..	..	..	..	..	5	..	....
Fall River, Mass	Feb. 22.	69,000	48	..	..	..	..	..	..	1	..	1	..	4
Nashville, Tenn	Feb. 21.	68,531	25	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C	Feb. 15.	60,145	35	..	..	..	..	..	..	2	..	..	..	....
Manchester, N. H	Feb. 8.	43,000	......	..	..	..	..	..	..	..	1	..	..	....
Manchester, N. H	Feb. 22.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me	Feb. 22.	42,000	20	..	..	..	..	..	..	..	..	..	..	3
Galveston, Texas	Feb. 14.	40,000	11	..	..	..	..	..	..	..	..	..	..	....
Council Bluffs, Iowa	Feb. 16.	35,000	1	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal	Feb. 12.	32,000	5	..	..	..	..	..	..	..	..	..	..	...
Yonkers, N. Y	Feb. 14.	31,000	5	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y	Feb. 21.	31,000	8	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y	Feb. 22.	30,000	13	..	..	..	..	..	..	2	..	..	..	....
Altoona, Pa	Feb. 15.	30,000	7	..	..	..	..	..	..	..	..	..	.	..
Auburn, N. Y	Feb. 8.	26,000	18	..	..	..	..	..	..	..	2	1	..	....
Auburn, N. Y	Feb. 22.	26,000	11	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass	Feb. 22.	22,011	6	..	..	..	..	..	..	..	..	1	..	....
Rock Island, Ill	Feb. 16.	16,000	6	..	..	..	..	..	..	..	..	..	..	....
Keokuk, Iowa	Feb. 8.	16,000	8	..	..	..	..	..	..	..	..	2	..	....
Pensacola, Fla	Feb. 15.	15,000	4	..	..	..	..	..	..	..	..	..	..	....

The New York Academy of Medicine.—At the next meeting of the Section in Surgery, on Monday evening, the 10th inst., there will be an exhibition of clinical cases: Dr. C. Koller will read a paper on Immediate Blindness of One Eye a Symptom of Certain Fractures of the Base of the Skull, with a Report of Two Cases; and Dr. C. A. Powers, one on Conical Protrusion of Bone Stumps, resulting from Epiphyseal Growth, which will be discussed by Dr. L. A. Stimson and Dr. W. T. Bull.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 13th inst., there will be a presentation of patients, and the following papers will be read: Two Cases of Gonorrhœa occurring in a Brother and Sister, aged Six and Ten Years respectively, by Dr. T. M. Bull; and Two Cases of Vulvo-vaginitis complicated by Arthritis in Young Girls, by Dr. Henry Koplik. Gonococci from these cases will be demonstrated. Dr. C. G. Kerley will exhibit specimens illustrating pulmonary tuberculosis in infants, with a report of the distribution of the lesions in eighteen cases, and Dr. W. P. Northrup will open a discussion on the Prophylaxis of Diphtheria; the discussion to be divided as follows: 1. What precautions shall the physician take against the spreading of the disease by himself? 2. What are the best means of protecting nurses and others who are constantly exposed?

The Generative Organs in Addison's Disease.—Few detailed observations as to the pathology of the generative organs having as yet been published, the particulars of the following case, communicated by Professor Ludwig Kleinwächter to the Deutsche medicinische Zeitung will be found interesting. The author found in a woman of twenty-nine years, suffering from Addison's disease, considerable interference with the nutrition of the generative organs and mammæ. The mons Veneris was free from hair and fat, the labia flaccid, the vagina patulous, with its walls inclined to prolapse. Of the vaginal part of the uterus only a portion the size of a bean could be felt. The position of the uterus was a little to the right, and it was remarkably flaccid, with extremely thin walls; its cavity did not measure four centimetres. The ovaries were atrophic. Nine months ago menstruation had ceased, and with it all desire for sexual intercourse. The mammæ had completely disappeared. It will be seen that this pathological result is remarkably like the normal atrophy of old age.—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE SURGICAL TREATMENT OF MOVABLE KIDNEY,

WITH REPORT OF FOUR NEPHRORRHAPHIES.[*]

By A. J. McCOSH, M. D.

Fifteen years ago a movable kidney was regarded merey as a surgical curiosity. The subject was scarcely menioned in our treatises on surgery. Even to-day it is not accorded the thought and observation which it merits. Many physicians and surgeons still regard this abnormity as one of very infrequent occurrence. Men of large experience acknowledge that they have never recognized a case of movable kidney, and they are apt to attribute the occaional diagnosis of this condition by some of their colleagues o a special enthusiasm. That the importance of the subect is becoming more recognized is shown by the attention which it receives in medical journals and the increased space accorded to it in our text-books. This abnormity is cerainly one that ought not to be called rare, nor ought it to be denied that not uncommonly a movable or floating kidney causes considerable annoyance and in a few cases great suffering. I am convinced, however, that it is a condition which is frequently overlooked, and that symptoms for which it is responsible are often attributed to other causes. Unless specially sought for, it will rarely thrust itself on the examiner's attention. When patients lie on the back the wandering kidney is apt to return to its normal position, and generally it is only when they roll over on the opposite side or assume the horizontal position that the dislocated organ makes itself felt. If the patient is aware of its presence, some movement will be made or some position assumed which often will bring the misplaced kidney into contact with the hand that searches for it. Another reason for frequent failure to diagnosticate this condition is, that in he female the symptoms produced often resemble those caused by disease of the uterus or its appendages. The examiner's finger finds some abnormity in one of these organs, the mind is satisfied with this, and, instead of looking farther, decides that here will be found the cause of all the symptoms. Two cases in my own experience illustrate his. In one the ovaries and tubes had been removed, in another an anteflexion of the uterus had been remedied by divulsion and a stem pessary. Neither patient had been benefited by these operations. Each possessed a movable kidney. A complete cure was accomplished in the one case by a bandage, and in the other by a nephrorrhaphy.

In the post-mortem room it is only those who look for this condition that will discover it. After death the kidney falls back into its normal position, where it remains, unless manipulated for a distinct purpose by the pathologist.

A distinction is generally adopted between movable and floating kidney. A "floating kidney" is covered by peritonæum which forms a mesonephron, and it floats about inside of the abdominal cavity. A "movable kidney" is situated, as it should be, behind the peritonæum, and its movements take place between this structure and the muscular parietes behind. The kidney may be mobile inside the adipose capsule, which is distended into a large sac, or this capsule may remain adherent to the kidney and move with it.

It will not be amiss to give a few figures as to the frequency of these abnormities. The greatest difference of opinion exists on this point. Lindner[*] states that one woman in every five or six possesses a wandering kidney. This is of course a very extreme view. Skorczewsky[†] examined 1,422 patients with reference to this condition, and out of 1,030 females found a movable kidney in 32, and in 392 males a similar condition in 3. In 3,652 autopsies made by Ebstein in the Charité in Berlin, a movable kidney was noted in five cases, or 1 in 732. In 5,500 autopsies conducted by Rollet in Oppolzer's clinic, 22 cases were noted. Doubtless the estimate from autopsy reports is too low, as no special examinations were made to ascertain if this abnormity existed.

By far the greater number of cases occur in women; thus, in 474 cases collected by C. Schütze, 405, or eighty-five per cent., were in females. The right kidney is more often affected than the left. Morris gives the proportion as 12 to 1. Both kidneys are displaced in one out of every twenty cases (Landau).

Floating or movable kidney is a condition not dangerous to life, in the majority of cases not of grave importance, and which only very rarely demands surgical interference. In not a few cases, however, the result has been a life of suffering or of chronic invalidism. It is as much the province of the surgeon to rescue patients from these states as to interfere for the cure of more dangerous maladies. Although denied by some that this condition ever causes suffering sufficiently severe to warrant operative interference, yet it seems to me that every unprejudiced observer, especially he who meets with many cases of abdominal troubles, must acknowledge that he has seen patients in whom the diagnosis was unmistakable and in whom palliative treatment had failed to effect a cure. Surgeons, however, are not by any means agreed as to the propriety of operation for the cure of a wandering kidney. At the last meeting of the British Medical Association, in the discussion on nephrorrhaphy this difference was clearly brought out. During the past year both in France and Germany the subject has been frequently discussed with the same result.

Landau[‡] and a few others maintain that a movable kidney is not a condition which ever demands surgical interference. They maintain that nephrorrhaphy is not only unjustifiable, but contra-indicated; that the movements of the kidney are compensatory and prevent obstruction of its blood-vessels and the ureter.

At the other extreme is the view of Keppler,[#] who considers that a wandering kidney is a condition always attended by danger, and advises in nearly every case its extirpation.

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[*] Read before the New York Surgical Society, February 12, 1890.

[*] Lindner, Wanderniere der Frauen, p. 2.

[†] Morris, Diseases of the Kidney, p. 27.

[‡] Die Wanderniere der Frauen, Berlin, 1881.

[#] Arch. f. kl. Chir., 1879, p. 520.

The moderate and more reasonable view, that surgical interference is demanded only in exceptional cases, is the one held by the great majority of surgeons. Operation is not, however, justifiable until all other curative means—such as bandages, etc.—have been tried and failed. They agree as to the propriety of surgical interference, but differ as to the operation to be preferred. On the one hand, nephrorrhaphy is recommended; on the other, nephrectomy. The greater weight of opinion is decidedly in favor of the former operation. By such men as Agnew, Guyon, Küster, Keen, Kümmel, Langenbuch, Morris, Richardson, Schede, Terrillon, Thornton, Weir, and indeed the majority of surgeons, nephrorrhaphy is considered a comparatively safe and satisfactory operation. There are a considerable number of others, however, who assert that it is a useless procedure and never results in a cure. L. Tait is an example of this class. At the British Association he declared that he looked back with inexpressible regret on the three cases in which he had been persuaded to perform the useless and unjustifiable operation of nephrorrhaphy "with the result that not one of the patients has been benefited in the least, and one of them has died under such circumstances that I think the operation might fairly be blamed for it. I shall have nothing more to do with fixing kidneys." * Lindner,† also, to a certain extent shares this view, and says that he would rather assume the risk of doing a nephrectomy than subject his patient to an operation which is not free from danger and where the result is so doubtful. Other surgeons of note advocate this same view.

The operation of nephrorrhaphy may often have failed to effect a cure. That such failure has resulted in a considerable number of cases is not denied. The operation has, however, effected a cure in many patients, and has ameliorated the sufferings of others. The operation is a comparatively safe one. The mortality is not over two per cent. Is the patient to be deprived of this chance for cure simply because certain surgeons are skeptical as to the beneficial results of suturing the kidney to the loin? Or is the misplaced organ to be extirpated by an operation the mortality of which is twenty-five per cent.? It seems to me that there should be only one answer to these questions, as there is ample proof that in very many cases nephrorrhaphy has been followed by most satisfactory results. The cases reported where permanent relief from suffering has resulted in patients who have been under many years' observation by careful observers are now too numerous to be attributed to enthusiasm on the part of surgeon or patient, or to any mental effect produced by operation. While the condition of some patients who suffer from a dislocated kidney is serious enough to warrant an attempt at cure by nephrorrhaphy, in how many is it sufficiently grave to warrant the extirpation of that organ? (In thirty-six nephrectomies, collected by Lindner,‡ for movable kidney, nine died from the effects of the operation, equal to twenty-five per cent.) I should consider that there is no warrant for this latter operation until every other means has been tried and failed, and then only in the most desperate cases. An attempt should certainly first be made to fasten the kidney by means of suture. Should this attempt fail, it will be a question whether nephrorrhaphy should not again be tried. Numerous cases have been reported where a second nephrorrhaphy has resulted in cure, and, where failure has twice occurred, a third trial has been successful in more than one patient.

In the four cases where I have done nephrorrhaphy the diagnosis has been unmistakable, and every other means of relief for the three patients had been tried and failed.

Case I.—Miss E., twenty-eight years of age, a German teacher, since girlhood had suffered dragging pain in her right loin. When she was sixteen it was so decided that she was taken to Professor Bartels, of Kiel, who diagnosticated "floating kidney," and ordered a bandage. This gave little or no relief, and was soon cast aside. Four or five years later she was taken to Paris. On recommendation of various surgeons, four or five different bandages were tried. These were soon discarded as useless. The only one which for a time gave relief consisted of a round pad at the end of a spring, like a hernial truss. This, also, was soon abandoned, as the kidney would escape beneath it and new distress was caused by its pressure. In 1882 I first saw the patient; she then complained of dragging, often cutting, pains in the right side of her abdomen extending down into the pelvis. Sometimes the pain would continue for weeks with but little intermission, and then for a time would almost entirely disappear. It was increased by bodily exertion and was more severe at her menstrual epochs. Occasionally the suffering was so great that she was obliged to remain in bed for days. The pain at night would often be as severe as during the day. Her other symptoms consisted of digestive disturbances. She often suffered from nausea and vomiting. Attacks of colic were frequent and severe. Flatulency was always present, and obstinate constipation existed. The diagnosis of movable kidney was made. The patient, after trying her bandages, etc., passed out of my hands for the next two or three years. On her return she reported that she had consulted numerous physicians, most of whom made light of her diagnosis of floating kidney. Among other methods of treatment employed was divulsion of the uterus and insertion of a stem pessary, which she wore for several months, to correct an anteflexion of the uterus. During this time all her symptoms had increased in severity, especially after a fall which she had received a few months before.

The patient, who is tall and very thin, was markedly anæmic. No fœtor ex ore (Lindner) was, or had been, perceptible. On physical examination, by a little manœuvering on he part a hard, movable tumor was felt in the right side of he abdomen. This body could be grasped by the hand through the thin abdominal wall. It could be brought over to th median line and then down almost to Poupart's ligament. I was not sensitive to pressure. I examined the patient on man occasions, and in perhaps three times out of four could easil feel the tumor, while in the fourth instance every endeavor o the part of both would fail to dislodge it. The patient wa anxious for operation, and entered the Presbyterian Hospita for nephrorrhaphy.

On April 8, 1888, the patient was etherized and placed on he left side and belly. A vertical incision at the outer edge of th erector spinæ muscle was extended down to the circumrenal fa This was found to be rather scanty. Through it the kidne could not be felt until pressure was made from in front by a

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* British Med. Assoc., August, 1889.

† *Loc. cit.*

‡ *Loc. cit.*, p. 45.

assistant. The fatty capsule throughout its whole extent was torn through, and the posterior surface of the kidney was exposed. Its movements up and down on natural respiration were to the extent of an inch and a half; when the patient breathed more deeply their extent was two inches and a half. The slightest push when the assistant's hand was removed from the abdomen thrust the kidney out of sight. It was so unsteady that considerable difficulty was experienced in passing the sutures. A tenaculum thrust through its capsule quickly tore out. When somewhat steadied by the assistant's hand, I succeeded in passing the sutures. They consisted of four strong catgut threads passed through the capsule and a superficial portion of the cortical substance for a distance of about three quarters of an inch. They were then passed through the fasciæ and muscles of each side of the wound, but not tied until its deeper layers had been united by sutures of catgut. The sutures which had penetrated the kidney were then tied, bringing the organ firmly against the sutured fasciæ and muscles. The skin and cellular tissue were united, except in the lower fourth of the wound, which had been left entirely open, and at the bottom of which the lower end of the kidney could be seen. This was packed with iodoform gauze.

The operation was followed by no unfavorable symptoms. The urine was unchanged. The upper part of the wound, which had been sutured, united by primary union. The lower fourth filled up rapidly with granulations. The patient was kept on her back for two weeks, and at the end of the third week sat up. At this time nothing remained of the wound but a short sinus. At the end of the fourth week she was allowed to move about, but was cautioned against violent efforts for some time.

As soon as she left the hospital the patient felt that she was better. She experienced none of her old pains and suffered less from indigestion. The flatulency persisted for several months. At the end of a year neither she nor I could feel the kidney, and no movement or effort on her part could dislodge it. She had gained twelve pounds in weight, and considered herself cured. I have seen her within the last week (twenty-two months since operation); she affirms that she has no pain, suffers but little from indigestion, and that her constipation troubles her but little. She is enthusiastic over the result of the operation.

Case II.—Mrs. S., thirty-four years of age, mother of two children, was kindly referred to me for operation by Dr. J. Lombard. Bandages and medical treatment had been tried in vain. Symptoms much the same as in last case, except that vomiting was more frequent and persistent. Belly rather fat but not pendulous. No fœtor et ore. Bladder acted naturally. Urine normal. Patient was a working woman and desired operation, as, by reason of suffering, she was incapacitated from earning her living. The right kidney could be distinctly felt, was very movable, and not sensitive to pressure. In June, 1888, nephrorrhaphy was performed according to the same method as in Case I. An ample fatty capsule was found, and the kidney seemed to move inside this capsule, which apparently did not follow the kidney in its movements. Three sutures of catgut were used. After operation the patient had no untoward symptoms. At the end of a month the wound was healed and she was allowed to go out. I saw her again at the end of three months. Her pain had disappeared, and during the preceding two months she had never vomited, or even experienced nausea. The kidney could be indistinctly felt apparently in its normal position and firmly fixed. I have not seen the patient since, but at the end of six months from the date of operation she wrote saying she was a well woman.

Case III.—Mrs. H., aged twenty-six, mother of three children, was kindly sent to me by Dr. T. G. Thomas. As a girl she occasionally suffered from attacks of severe pain in the right side of the belly. After marriage, attacks became more frequent and severe. During her first pregnancy her sufferings were much increased, and since the birth of her child had been gradually increasing in severity. The paroxysms were more violent, occurred more frequently, and continued longer. For two or three months she might be comparatively comfortable, and then for an equal period her sufferings would be intense. Violent exertion would at once bring on an attack, and then for weeks she would be obliged to remain in bed, often for days under the influence of morphine. The pain she describes as gnawing in character and at times resembling severe "cramp colic." During this time she had been troubled with indigestion manifesting itself in flatulency and colic, occasionally nausea and vomiting. Since her first labor the patient had noticed a movable lump under the false ribs on the right side. She felt this before attention was called to it by her physician. She is positive that during her attacks of pain this mass increased in size and was exceedingly sensitive to pressure, which produced a sickish feeling. After the paroxysm passed off her right side would for days be tender. Often at night the pain was as severe as during the day. She had consulted numerous physicians, some of whom made the diagnosis of floating kidney, others of tumor of the bowel. Various kinds of treatment, including bandages, had been tried without benefit. During the last two years she had lost twenty pounds in weight. For six months she had been practically an invalid, scarcely venturing to leave the house, as any unusual movement resulted in an access of her pain. She had become much discouraged, was tired of life, and feared that she might succumb to the opium habit., With the hope that some operation might cure her, she came to New York from her home in Virginia. An examination was first made with the patient standing. The abdominal walls were found to be exceedingly lax. A solid, freely movable tumor was at once felt on the right side of her abdomen just below the ribs. This body could be grasped through the rather thin abdominal walls, carried to the left till it rested on the bodies of the vertebræ behind the umbilicus, and then back to its original position. When the patient lay quietly on her back it disappeared, and could be felt with difficulty. As she rolled over on her left side it became dislodged, and could be carried well to the left of the spinal column. Without difficulty an artery could be traced leading from the aorta to this movable body, where it terminated in a depression which, without doubt, was the hilum of the kidney. These manipulations caused but little discomfort to the patient. The urine was normal. There had never been frequency of micturition. On examination a few days later, when complaining of considerable pain, the kidney was found sensitive to pressure, which produced a feeling of nausea.

On November 19, 1889, the patient was etherized and placed on the belly with the lower extremities hanging over the edge of the table. A vertical incision was carried down till the perinephric fat was exposed. This appeared normal in quantity. Before the lumbar fascia had been opened the fat was seen moving up and down an inch or more with the respiratory movements. The finger pushed against this adipose capsule felt no kidney and met with no resistance till it felt the hand of an assistant pressing upon the front of the abdomen. At the upper and external part of the wound under the twelfth rib, on deep palpation, a solid body was felt which slipped out of reach as soon as the finger came into contact with it. The house surgeon, Dr. Sharpe, by manipulations through the abdominal wall, brought this body against the fat at the bottom of the wound. The adipose capsule was then torn throughout its whole extent, and the kidney, held in place by the assistant's hand, came into view. It appeared to be of normal size, color, and consistency. When pressure was relaxed it moved freely up and down with the respiratory movements, the tunica adiposa sharing to a great extent in its movements. When the assistant removed his hand the kidney slipped out of sight and reach. It was easily forced back into the wound, and its pedicle was so long and flexible that it could easily have been pushed entirely outside the wound. It was united to the lumbar muscles by seven catgut sutures passing directly under the capsule for a distance of about half an inch, and necessarily through a superficial portion of the cortical substance. Three of these inserted on the border at the inner side of the wound and three on the opposite border were united to the edges of the divided muscles and fasciæ. One catgut suture, passing under the capsule for about an inch and through the muscles on each side of the wound, was not tied until the different layers, with the exception of the skin, had been united. This closure was effected only in the upper fourth of the wound, the greater part being left open and packed with gauze down to the kidney, which lay at the bottom. No bad symptoms followed. The wound rapidly filled with granulations. The patient was kept on her back for seventeen days and then allowed to turn on the side. At that time the kidney could be indistinctly felt on deep palpation, and appeared to be anchored somewhat external to its proper position.

On the twenty-first day the patient remarked that she could feel the kidney below her ribs, and that it was movable. She was not mistaken, for the obstreperous organ, or the lower end of it, was distinctly felt just below the last rib. It was movable to a limited extent only, much less than it had been before operation. Fearing that in the future the result would be unsatisfactory, if it was not already so, I advised a second operation, to which she consented.

CASE IV.—On December 10, 1889, the patient (same as Case III) was etherized and the old wound reopened. Considerable cicatricial tissue was present where in the former operation the fatty capsule had been found. On tearing through this, no kidney was seen or felt. While before this organ was easily forced into the bottom of the wound, this was now a difficult matter. Adhesions evidently bound it at the external edge of the wound, for its tendency was to slip outward and forward, and considerable force was needed to hold it in such a position that it could be fastened to each edge of the incision. It was very evident that it had formed some new adhesions of considerable firmness. Three silk sutures were passed through the substance of the kidney for, perhaps, three quarters of an inch at a depth of about half an inch. They were then brought out through the fasciæ and muscles on each side of the incision, and, after these latter had been united, were tied over them. The skin was then sutured, a drainage-tube at the lower end of the wound passing down to the kidney. The patient made a good recovery. She was kept on her back for two weeks, and at the end of the third week was allowed to sit up. She was sent home wearing a bandage, with a pad pressing against the region of the kidney. The result was apparently satisfactory. The kidney could be felt somewhat external to its normal position, but it was firmly fixed, and could not be moved either by the patient or myself. Within the last few days I have heard from the patient (two months after operation), and she is entirely free from pain.

The results attained in these four cases are certainly encouraging. One patient, at the end of two years, is completely cured. In another, at the end of six months, the result was in every way satisfactory. In the third patient the first operation was apparently a failure; what the final result of the second operation will be can not yet be decided, but, at the end of two months, the outlook is favorable.

Before discussing the technique of the operation, a word as to the best form of bandage. In the majority of patients the one that gives the greatest comfort consists of a well-fitting abdominal bandage made, in part at least, of some elastic material. At the point where the kidney escapes under the ribs is fastened a pad, in size, shape, and consistency made to suit each individual case.

More elaborate forms of apparatus are used, but, in the end, are generally discarded to be replaced by this simpler bandage just mentioned. As a rule, it is not necessary to wear any support at night.

Since the operation of nephrorrhaphy * was first introduced by Hahn in 1880, a number of different methods have been employed for fixation of the kidney. Practically, all procedures are alike in one point—that they fasten the kidney to the lumbar muscles by means of sutures. They are unlike in the material of which the suture is composed and the tissues through which it passes. Experience alone will determine which method is followed by the best results. The incision down to the adipose capsule is made as in other operations on the kidney. It may be either vertical or oblique, between the last rib and the crest of the ilium, external to the erector spinæ and quadratus lumborum muscles. The later steps of the operation differ to some extent according to the operator. These different plans may be divided into the following four classes:

1. The adipose capsule, opened or unopened, is united by sutures to the edges of the incision.
2. After freely opening the adipose capsule, the sutures are passed through the fibrous or true capsule of the kidney.
3. After free exposure of the kidney, the sutures are passed directly through its parenchyma.
4. A certain portion of the capsule proper is stripped off the kidney, and the sutures passing through its parenchyma bring the raw surface thus made directly in contact with the cut tissues in the loin. The sutures enter and emerge through the capsule just outside of the raw margin, and are then passed through the tissues on each side of the incision, which is closely united.

The first method is the one originally employed by Hahn.† Experience has shown that it has been less efficient than some of the more recent methods. This was the initiatory and somewhat experimental stage of nephrorrhaphy. As the operation has developed, the advance has always been in one direction—viz., that the sutures be passed in such a manner that they will take a deeper and firmer hold of the kidney.

The second method was next adopted. At one time or another it has been employed by almost every surgeon who has done many nephrorrhaphies, and while many of its results have been admirable, still a number of failures have resulted. Until recently it was the method generally employed, but it is now being somewhat superseded by procedures which promise better results. An ample experience has established the fact that the kidney is in no way injured

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* Néphropexie (Le Dentu).

† Ctrlbl. f. Chir., 1881, p. 449.

by the passage through its capsule of sutures. The occasional failures have apparently been due to tearing out of the sutures. Although generally passing through a superficial portion of the cortical substance as well as through the somewhat fragile tissue of the capsule, sufficient resistance is not offered by these structures to withstand the efforts of the kidney to free itself. The sutures will not accomplish their object unless they retain the kidney in place until it is firmly secured by adhesions. Even during the operation these stitches have torn out. Yet they ought to retain their hold for two weeks or longer, and this seems almost too much to demand from a tissue not tougher than the capsule of the kidney. When relapses occur, as they frequently do, a short time after operation, it seems reasonable to conclude that the sutures have cut their way out.

The third method, probably the one most generally adopted at the present day, was introduced for the purpose of avoiding this accident. The sutures are passed through a considerable portion of the substance of the kidney, and at such a depth that they completely control its movements. Inserted in this way, they do not appear to tear out unless tied too tightly. It has been thought that perhaps the presence of numerous threads in the midst of the secreting substance of the kidney might result in permanent damage to its structure. From their experiments on animals, Tuffier * and Vanneufville † have concluded that this need not be feared.

Experience also has shown that these sutures have no injurious effect. In a few cases after operation albumin has appeared in the urine, but has never persisted. Thus far the results have been most encouraging. In twenty-nine cases operated on according to this method, twenty cures, five improvements, and four failures resulted. (In twenty-two cases where the capsule alone was sutured the result in nine was cure, in seven improvement, and in six failure.) ‡

The fourth method is a comparatively recent one. Sufficient cases have not been reported, nor has long enough time elapsed, to allow of any decision as to the superiority of this procedure. Jordan Lloyd # operated according to this method in 1886. Tuffier ‖ and Guyon △ advocate it. The former found that, in animals where the kidney deprived of its capsule was brought into contact with the cut muscles in the loin, the union resulting was far firmer than when the unbroken capsule was brought into apposition with the same structures. Several operations, followed apparently by good results, have been done according to this plan by Guyon, Tuffier, and others.

Although all operations may be classified according to one or other of these methods, there are many points of difference as far as the details are concerned.

First, as regards the treatment of the wound. This may be left entirely open to fill up with granulation tissue or may be closely united by one or more rows of suture. It is thought by many that the adhesions between the kidney and the loin will be firmer if the wound be allowed to unite by secondary intention. From a close examination of the histories of cases reported, it appears to me that equally good results are obtained when the wound is closed by sutures as when the open plan is adopted.

Second, as regards the sutures. Various materials have been used—catgut, silk, kangaroo tendon, silkworm gut, and silver wire. This is a very important point in the operation, and more experience is needed to determine which material is the best. While at first sutures were mainly of catgut, this is being more and more replaced by a thread that will prove more durable. For the past year or so operators of the largest experience have generally employed either silk or some strong animal ligature, such as kangaroo tendon. With this latter substance Morris, Gould, Gardner, etc., have obtained excellent results. If it can be shown that it is a harmless procedure to leave several threads of an unabsorbable material within the kidney, then the choice of suture will be in direct proportion to its durability. Tuffier and others have proved that in animals at least this may be done with impunity. Personally, I should prefer silk to kangaroo tendon. It is more reliable and more easily rendered aseptic. It may be that silkworm gut will be an admirable material. It has been successfully employed by Guermonprez.

Third, as regards the structures to which the kidney sutures are fastened. They may be attached to the edges of the divided fasciæ and muscles which may or may not be united. They may be brought out through the entire thickness of each lip of the wound and be tied externally after the various layers of the incision have been united. In either case they can be taken out after the kidney is considered firmly fastened. It is generally believed to be better, however, not to remove them.

A number of operators, principally of the Italian school (Cecherelli, Bassini, De Paoli), also Duret, consider it wiser to fasten the upper end of the kidney, at a higher point than can be obtained by suture to the ordinary incision. To accomplish this, they have resected, in whole or in part, the twelfth rib, and sometimes the eleventh as well. To the periosteum of these ribs the sutures are united. Unless in exceptional cases, this appears to be a rather unnecessary procedure. It must certainly add somewhat to the dangers of the operation. This manœuvre was to some extent responsible for one of the deaths reported (Case XVII). The sutures have in a few cases been attached to the periosteum without removal of any portion of the bone.

By most operators the adipose capsule is sutured to the edges of the wound. Bryant,* Dunning,† and others lay stress on the importance of this step. If the fatty capsule be adherent to the kidney, a firm anchorage may by this means be secured; but if the kidney, as often happens, moves inside this capsule, then certainly the adhesion of this latter structure can not be of much service.

In an endeavor to collect all the cases of nephrorrhaphy

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* Études expérimentales sur la chirurgie du rein, Paris, 1889.

† De la néphrorrhaphie, Thesis, Paris, 1888.

‡ See tabulated cases.

The Practitioner, September, 1887.

‖ Revue de chir., p. 932; Arch. gén. de méd., 1889, p. 562.

△ Bull. de l'acad. de méd., Paris, Feb. 26, 1889.

* Med. Record, Jan. 12, 1889.

† Western Med. Reporter, October, 1888.

which have been reported, I have succeeded in finding a record of one hundred and seventeen such operations. A detailed account, however, is given of only eighty-seven patients. The excellent pamphlet by Lindner and the recent able article by Frank have been of much service to me in this work. Many of the reports have been made at the expiration of a few weeks from the time of operation, and, as a patient ought not to be considered as permanently cured until a year at least has elapsed, it is impossible to draw any definite conclusions as to the relative proportion of successes and failures.

Out of fifty-six nephrorrhaphies collected by Frank,* twenty-one patients had been under observation for a year or more. The result in eleven of these was permanent cure, in four decided improvement, and in six failure. Out of eleven cases where the sutures passed through the parenchyma of the kidney, nine were cured. Morris † claims seven successes out of ten cases. In the one hundred and seventeen cases recorded below, three deaths have occurred. One of these, however, can not be attributed to the operation, as an ileus, supposed to be due to a floating kidney, existed before operation, and was unrelieved. The fatal result in another patient (Case XVII) can only in part be attributed to the nephrorrhaphy; a pleurisy followed, due to attachment of sutures to the twelfth rib, but it was complicated by a fatty heart and atheromatous arteries. In the third case septicæmia resulted from passage of a suture through an old embolic infarction in the kidney.

Of the eighty-seven detailed cases, thirty-two patients had been under observation for one year or longer. In fifteen of these radical cure resulted, in four decided improvement, and in thirteen failure. As has been stated, it is not just to compare these figures with the total number of cases, for in a large proportion the permanent result is unknown.

Relapses generally occur within the first few weeks after operation, and therefore it is reasonable to suppose that the majority of patients who are well at the end, say, of three months will be permanently cured. A comparison of the results at this period ought to be of some value. There are sixty-two patients whose condition at the expiration of three months is stated. In thirty-two a cure had been effected, in fourteen decided improvement had resulted, and in thirteen no benefit had been derived from the operation. In twenty-nine of these cases the sutures had been passed through the parenchyma of the kidney, with the result that twenty were cured, five improved, and four unimproved. In twenty-two of the same cases the capsule alone was sutured, and the result was nine cured, seven improved, and six unimproved.

CASES OF NEPHRORRHAPHY.

No.	Operator.	Reference.	Sex and age.	Side.	Sutures passed through.	Result.	Remarks.
1	Küster.	Verhandl. deut. Chir. Cong., 1882.	......	....	Adipose capsule (opened).	R.	At end several months marked improvement; kidney fixed.
2	Küster.	Lindner, Wanderniere der Frauen.	F., 27.	R.	Parenchyma (1 silk); capsule (7 catgut).	R.	At end several years permanent cure.
3	Küster.	*Ibid.*	F., 35.	R. & L.	Parenchyma (silk and catgut); both kidneys.	R.	Symptoms persisted, although kidneys firmly fixed.
4	Küster.	*Ibid.*	F., 52.	R.	Parenchyma (4 silk and 2 catgut).	R.	Cure at end of several years.
5	Küster.	*Ibid.*	F., 34.	R.	Parenchy. (silk & catgut).	R.	Failure; relapse in six months.
6	Küster.	*Ibid.*	F., 26.	R.	Parenchyma.	R.	Failure.
7	Esmarch.	Verhandl. deut. Chir. Cong., 1882.	F.	R.	....	R.	At end of few months, decided improvement.
8	Delhaes.	....	F.	R.	Parenchyma.	R.	Decided improvement.
9	Bassini.	Ann. univ. di med. e chir., Milano, 1882; Lindner, *loc. cit.*	F., 27.	R.	Parenchyma and fastened to 12th rib.	R.	Cure at end of few months.
10	Newman.	Glasgow Med. Jour., 1883, p. 831.	F., 40.	R.	Parenchyma.	R.	Cure at end of three months.
11	Weir.	N. Y. Med. Jour., Feb., 1883.	F., 33.	R.	Capsule (2 catgut).	R.	
12	Weir.	Personal communication.	......	....	"Tuffier's method."	R.	
13	Swennson.	Frank, in D. med. Wochensch., 1889, p. 173.	F., 21.	R.	Parenchyma.	R.	Complete cure at end of two years.
14	Agnew.	Med. News, Jan. 29, 1887.	M., 32.	R.	Capsule (animal suture).	R.	Failure; in 6 mo. nephrectomy.
15	J. Greig Smith.	Lancet, 1884, ii, 10.	F., 39.	R.	Kidney scarified; no sut.	R.	Cure; short observation.
16	Gardner.	Austral. Med. Jour., 1885.	F., 45.	....	Parenchyma (2 kangaroo tendon).	R.	Cure at end of 3 months.
17	Cecherelli.	Rivista clin., Bologna, 1883, p. 290; Lindner, *loc. cit.*	F., 28.	....	Capsule to 12th rib.	D.	In 45 hrs.; pleural cavity filled with fluid; atherom. arteries; fatty heart.
18	De Paoli.	Gaz. clin. Torino, 1885; Lindner, *loc. cit.*	F., 30.	R.	Capsule (12th rib resected) and to periost., 11th and 12th ribs.	R.	Result satisfactory at end of 7 weeks.
19	Ghinozzi.	Raccoglitore med., 1886; Lindner, *loc. cit.*	M., 20.	L.	Adipose capsule fastened to 12th rib.	R.	Result good at end of few weeks.
20	Lauenstein.	D. Chir. Cong., 1882.	......	....	....	R.	At end of several months no improvement; kidney firm.
21	Lauenstein.	D. med. Wochensch., 1887, p. 26.	F., 42.	R.	Parenchyma (5 catgut).	R.	Complete cure at end of 9 months; kidney firm.
22	Kümmel.	Arztl. Verein zu Hamburg, 1887; Lindner, *loc. cit.*	......	....	Capsule.	R.	Improvement at end of 6 mos.; kidney still movable.
23	Kümmel.	*Ibid.*	......	....	Parenchyma.	R.	Improvement slight at end of 18 months; kidney firm.
24	Kümmel.	*Ibid.*	F., 60.	R.	Parenchy. tore out; capsule strip'd off & sutur'd.	R.	Failure; nephrectomy at end of few months.

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* *Loc. cit.*

† Brit. Med. Assoc., August, 1889.

CASES OF NEPHRORRHAPHY—(*Continued*).

No.	Operator.	Reference.	Sex and age.	Side.	Sutures passed through.	Result.	Remarks.
25	Kümmel.	*Ibid.*	......	....	Parenchyma.	R.	Complete cure at end 18 mos.
26	Schede.	*Ibid.*	F.	....	....	R.	Cure at end of few months.
27	Schede.	*Ibid.*	F.	....	....	R.	Improvement; not cure.
28	Schede.	*Ibid.*	F.	....	....	R.	Result good at end of few wks.
29	Hahn (Schüler).*	Centralbl. f. Chir., 1881, No. 29; Lindner, *loc. cit.*	F., 38.	R.	Adipose capsule.	R.	At end of 3 months result satisfactory.
30	Hahn (Woyack).†	*Ibid.*, Frank, *loc. cit.*	F., 28.	R.	Adipose capsule.	R.	
31	Hahn (Woyack).	Frank, *loc. cit.*	Same pat. as No. 30.	L.	Capsule.	R.	
32	Hahn (Woyack).	*Ibid.*	2d op. on No. 30.	R.	Capsule.	R.	Improvement; hernia of kidney followed.
33	Schüler.	*Ibid.*	F.	....	Capsule.	R.	Compl. cure at end several yrs.
34	Ehlert.	*Ibid.*	F., 35.	....	Capsule.	R.	Complete cure at end of 7 yrs.
35	Bölke.	*Ibid.*	F., 32.	....	Capsule.	R.	Cure complete at end of 9 mos.
36	Graefe.	*Ibid.*	......	L.	Capsule.	R.	Cure complete at end of 4½ years; kidney fixed.
37	Dunning.	West. Med. Reporter, 1888, Oct.	F., 44.	R.	Adipose capsule.	R.	Cure at end of 2 years; kidney slightly movable.
38	Dunning.	*Ibid.*	F., 54.	R.	Adipose capsule.	R.	Failure; nephrectomy at end of 1 year.
39	Dunning.	*Ibid.*	F.	R.	Adipose capsule.	R.	Cure at end of 2 years; kidney firmly fastened.
40	Kazmierowski.	Frank, *loc. cit.*	F., 32.	R.	Capsule.	R.	Failure; relapse at end of 6 months.
41	Kazmierowski.	*Ibid.*	F.	....	....	R.	Partial success.
42	Ludwig.	*Ibid.*	F., 51.	R.	Capsule.	R.	Failure; no improvement.
43	Wabnitz.	*Ibid.*	F., 46.	R.	Capsule.	R.	Complete cure at end 20 mos.
44	Kloski.	*Ibid.*	F., 23.	R.	Capsule.	R.	Improvement at end of 15 mos.
45	Grünberg.	*Ibid.*	F., 28.	R.	Capsule.	R.	Great improvement; kidney fixed at end of 13 months.
46	Henckel.	*Ibid.*	F., 36.	R.	Parenchyma.	R.	Cure at end of 2 months.
47	In clinic of Mayländer.	*Ibid.*	F., 35.	R.	Capsule.	R.	Complete cure at end 3 years.
48	In Oberlinhaus, Nowawess.	*Ibid.*	F., 30.	R.	Capsule.	D.	At end 48 h., cause unknown; op. done for symptoms of ileus, which were unrelieved.
49	Berger.	*Ibid.*	F., 40.	R.	Capsule.	R.	Improvement; kidney fixed.
50	Wegner.	*Ibid.*	F., 29.	R.	Parenchyma.	R.	Failure; kidney fixed.
51	Krause.	Frank, *loc. cit.*	F., 31.	R.	....	R.	Improvem't slight; intermittent hydronephrosis persisted.
52	Morris.	Ann. of Surg., 1887, p. 289.	F., 41.	R.	Cortical substance (1 heavy catgut).	R.	Cure, and kidney firm at end of 8 months.
53	Morris.	*Ibid.*	F., 56.	....	Parenchyma (2 silk sutures removed 12th day; capsule (2 catgut).	R.	Result fairly good at end of 6 months.
54	Braun.	Lindner, *loc. cit.*	F., 27.	R.	Cortical substance (1 silk); adipose capsule (7).	R.	Complete cure at end of 1 year.
55	Braun.	*Ibid.*	F., 35.	....	....	R.	Result good at end of 5 weeks.
56	Schwerdtfeger.	Inaug. Dissert., Greifswald, 1886; Frank, *loc. cit.*.	F.	R.	Capsule.	R.	Symptoms persisted; kidney firmly fastened; patient had locomotor ataxia.
57	Von Tischendorf.	Centralbl. Chir., 1887.	F., 32.	R.	Cortical subst. and around 12th rib; laparotomy for cholecystotomy.	R.	Complete cure; kidney fixed at end of 4 months.
58	Wilcox.	Ann. Surg., 1888, p. 192.	F., 24.	....	Adipose capsule.	R.	Improvement great at end of 4 months; kidney firm.
59	Stonham.	Lancet, 1888, ii, p. 109.	F., 34.	R.	Parenchyma (1 silk); capsule (2 silk).	R.	Perfect cure at end of 9 mos.
60	Richardson.	Boston Med. and Surg. Jour., 1888, June 14.	F., 36.	R.	Capsule (4 silk).	R.	Cure at end of 8 mos.; kidney fastened 2 in. lower than normal position.
61	Duret.	Bull. acad. de Belgique, 1888, p. 440.	F., 33.	R.	Capsule and cortex of kidney and to periost. of 11th and 12th ribs, which had been resected.	R.	Perfect result at end of 5 mos.
62	Duret.	*Ibid.*	F., 39.	....	Same method as Case 64.	R.	Decided improvem't at end of 4 m.; kidney slightly movable.
63	Turgard.	Bull. méd. du Nord, Lille, 1887, p. 344.	F.	R.	Adipose capsule.	R.	Failure.
64	Gilmore.	Bull. méd. du Nord, Lille, 1887, p. 344 (in report of commission).	......	....	Capsule.	R.	Failure; followed by nephrectomy.
65	Lloyd.	Practitioner, 1887, Sept.	......	....	Parenchyma; capsule peeled off and sutured.	R.	Cure at end of several months.
66	Hager.	Berl. klin. Wochenschr., 1889, p. 33.	F., 22.	L.	....	R.	Sympt. continued; probably due to calculi; r't kidney had been extirpated because movable.
67	Warfoinge.	Schmidt's Jahrbuch, 1885, pp. 108, 205.	......	R.	Parenchyma (silk).	R.	Result satisfactory at end of few months.
68	Gould.	Lancet, 1888, ii, p. 674.	F., 28.	R.	Cortical substance, 2 kangaroo tendons.	R.	Perfect cure at end of 2½ mos.

* Attributed by Frank to Schüler.

† Cases 30, 31, and 32 are attributed by Frank to Woyack.

CASES OF NEPHRORRHAPHY—(*Concluded*).

No.	Operator.	Reference.	Sex and age.	Side.	Sutures passed through.	Result.	Remarks.
69	Gould.	*Ibid.*	......	....	Parenchyma; silk sut. removed in few days.	R.	Failure; at end of 3 mos. relapse.
70	Gould. 2d operation.	*Ibid.*	Same pat. as No. 65.	....	Parenchyma, kangaroo tendon.	R.	Result satisfactory at end of few months.
71	Terrillon.	Ann. malad. organ. genito-urin., vii, p. 469.	M., 57.	R.	Adipose capsule, as kidney could not be forced into wound.	R.	Perfect cure at end of 5 mos.
72	Terrillon.	*Ibid.*	F., 42.	L.	Capsule and cortical substance.	R.	Marked improvement at end of 2 months.
73	Guermonprez.	Report by Terrillon, Bull. de l'acad. méd., 1889.	F., 37.	....	Parenchyma (silkworm gut).	R.	
74	Keen.	Med. News, 1889, p. 431.	F., 35.	R.	Capsule (silk).	R.	Great improvement end of 5 m.
75	Rosenberger.	Report by Wagner in Schmidt's Jahrbuch, 1889.	F., 22.	R.	Capsule sutured to peritonæum (7 silk).	R.	Result satisfactory; short observation.
76	Langenbuch.	Deut. medic. Wochensch., 1889, p. 325.	F., 19.	R.	Parenchyma (4 sutures).	R.	
77	Langenbuch.	Deut. med. Wochensch., 1889, p. 325.	F., 43.	R.	Parenchyma.	D.	On 3d day, septicæmia; suture passed through old embolic infarction in kidney.
78	Guyon.	Bull. de l'acad. de méd., Paris, 1889, p. 239.	F., 54.	R.	Parenchyma and around 12th rib (4 catgut).	R.	Complete cure at end of 9 mos.
79	Guyon.	*Ibid.*	F., 20.	R.	Parenchyma (catgut).	R.	Complete cure at end few mos.
80	Mears.	Ann. Surg., 1889, p. 241.	F., 29.	R.	Cholecystotomy at same operation.	R.	Cure; short observation.
81	Dodd.	Drummond in Lancet, Jan. 11, 1890.	M., 38.	R.	....	R.	Cure.
82	Bryant.	Med. Record, Jan. 12, 1889.	M., 28.	R.	Adipose capsule.	R.	Cure; short observation.
83	Hume.	Report by Drummond, Lancet, Jan. 11, 1890.	F., 31.	R.	....	R.	Cure at end of 4 months.
84–97	Küster.	Berl. kl. Wochensch., 1889. Discussion on Frank's paper.	......	....	No details given except all	R.	Majority of cases were satisfactory.
98–105	Morris.	Discussion in Brit. Med. Assoc., Aug., 1889.	......	....	Details not given except all	R.	Results satisfactory.
105–108	Tait.	*Ibid.*	......	....	Details not given except	R.	Results not satisfactory.
109–113	Bruce Clark.	*Ibid.*	......	....	Details not given except	R.	Results satisfactory.
114	McCosh.	....	F., 28.	R.	Capsule.	R.	Complete cure at end 22 mos.
115	McCosh.	....	F., 34.	R.	Capsule.	R.	Cure at end of 6 months.
116	McCosh.	....	F., 26.	R.	Capsule.	R.	Partial failure.
117	McCosh. 2d operation.	....	Same pat. as No 116	....	Parenchyma.	R.	At end of 2 months results satisfactory.

TREATMENT OF ECTOPIC PREGNANCY,

WITH REPORT OF A CASE.

By WILLIAM H. WATHEN, M.D.,

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WE can not adopt the best treatment in ectopic pregnancy unless we know its pathology as taught by the most correct observers; a failure in this particular has resulted in a variety of methods of treatment, and this applies as well to men of recognized ability in obstetrics and gynæcology. There is, however, nearly a unity of opinion with physicians who recognize that all cases are probably tubal in their origin; they oppose the use of electricity, or any other means to cause infanticide, except laparotomy, for the removal of the fœtus and the membranes. Thomas, than whom there is no better authority in gynæcology, teaches the old classification of Parry and Dezcimeris. He speaks of an impregnated ovum "attaching itself primarily to the peritonæum," and of a "fœtus and placenta entering the peritoneal cavity by rupture and developing there." No ovum has ever attached itself primarily to the peritonæum, nor is it possible for it to do so; nor has a placenta become separated from its attachments to the tube and then attached itself to any other structure. An ovum can not become fixed to any structure until it is held firmly and immovably, and a placenta once separated is always separated, just as in intra-uterine pregnancy. The placenta may finally attach itself to nearly any abdominal viscera by making epiphytic inroads upon other structures, and it may gradually become partially or *possibly* entirely detached from its tubal connection. It is seldom, if ever, attached by villous penetration to the abdominal surface of the peritonæum, but grows to the tissues or viscera under the peritoneal covering by gradually stripping it from its abdominal or visceral connection. The gestation sac may adhere to any part of the abdominal surface of the peritonæum and become fixed to the viscera or abdominal walls, but this attachment is of the same character we find in pelvic and abdominal tumors, and not by the growth of chorionic or placental villi.

The old classifications were mainly based upon postmortem observations made by men not trained in pathological and microscopical research, who could not accurately distinguish the tissues often matted together and entirely changed in physical appearance.

Thomas's report of a four-pound placenta being attached to the entire extent of the colon from caput to sigmoid flexure does not indicate that the ovum was primarily fixed to the peritonæum, or that a tubal pregnancy ruptured into the abdominal cavity; it reached the colon, as it reaches other viscera, by slowly stripping the peritonæum off the bowel and fixing its villi into the muscular tissue of the gut; or it may have become adherent by pressure, just as any other abdominal tumor. It may be *possible* for a tubal gestation sac that has ruptured into the peritonæum to continue to develop, and for the placenta to gradually attach itself through its villi to the abdominal or visceral surface, but I doubt if we have any positive evidence that this has occurred. There seems to be evidence, however, that the fœtus in the latter months of pregnancy has ruptured through the folds of the broad ligament into the cavity of the abdomen and continued to develop; but the placenta did not follow it.

The divisions and subdivisions of ectopic pregnancy, as found in most standard text-books, tend to confuse the medical mind, for such classifications are not sustained by facts correctly observed. Thomas, in speaking of the difficulty of determining how to classify cases of ectopic pregnancy, says: "Nothing is more delusive than post-mortem examinations when practiced by one unequal to the task which he undertakes."

As the treatment of ectopic pregnancy at different stages of fœtal development varies according to the conditions we are to contend with, it is well to adopt something after the following arrangement:

1. Treatment before primary rupture of the tube.
2. Treatment after rupture into the folds of the broad ligament and before the period of fœtal viability.
3. Treatment where the sac ruptures into the peritoneal cavity.
4. Treatment after fœtal viability and at full period of gestation.
5. Treatment after death of the fœtus at or before the full period of gestation.

Rupture of the gestation sac nearly always occurs before the end of the third month, and it is doubtful if a diagnosis of ectopic pregnancy can be positively made before that time. Of course, subsequent results may demonstrate the correctness of a diagnosis before the end of the third month, but the symptoms upon which the diagnosis is made are not different from what may be caused by other diseased conditions.

The following from Thomas indicates that he entertains doubts about being able to positively diagnosticate ectopic pregnancy in the early months: "After all is said in regard to the diagnosis of ectopic gestation, it must be added that a positive conclusion is very generally difficult and often impossible." A correct diagnosis can hardly be made unless the membranes expelled from the uterus are shown to be decidual in a careful examination by an experienced microscopist. With this exception neither the subjective nor the objective symptoms are pathognomonic; the same rational and physical signs may be observed in other cysts, tumors, or deposits in the pelvis. I believe that in some of the reported successful cases following the use of electricity the women were suffering with other forms of pelvic trouble. Lawson Tait has operated for ectopic pregnancy nearly fifty times, but he has never diagnosticated a case until after rupture of the sac. So, if this difficulty in diagnosis is usual with experienced gynæcologists, it is not probable that the average general practitioner could often make a correct diagnosis. A rapid decrease in the size of other pelvic tumors or deposits, and a decided improvement in the local and general condition, may be caused by a healthful stimulation by the faradaic current, or the electrolytic effect of the galvanic current.

But, assuming that a diagnosis has been made, what plan of treatment should we adopt? There are two recognized methods: To remove the gestation sac by laparotomy, or to destroy the life of the fœtus and leave it and the membranes in the cavity to be absorbed, to become encysted, or to suppurate and discharge through some of the viscera or through the abdominal walls. Electricity is the only fœticidal means now recognized as orthodox. The especial advocates of this in our country are Thomas, Mundé, Lusk, Garrigues, York, and Mann, though it has been tried by others here and abroad, and successful results are reported.

Thomas says: "A diagnosis of ectopic pregnancy being arrived at, destroy fœtal life as promptly as possible." Also: "Unless the imminence of rupture renders fœticidal efforts hazardous and delay for this purpose unadvisable, the life of the fœtus should always be destroyed prior to fœtal viability, before laparotomy is resorted to."

I enter a protest against such treatment, and, waiving the moral aspect of the question, insist upon substituting laparotomy and the entire removal of the gestation sac, because it will give much better immediate and subsequent results.

Dr. Harbert, in 1849, Kiwisch, in 1857, and Stephen Rodgers, in 1867, suggested and advocated laparotomy in ectopic pregnancy with rupture, but I find no record of any one recommending the operation before rupture in the early months until I suggested its propriety before Tait did his first section for tubal pregnancy with rupture. Before primary rupture of the sac the adhesions are very few, and the removal of the fœtus and membranes by laparotomy is so simple and so devoid of danger in the practice of an experienced operator that the mortality would be reduced to a minimum; it would be less than the mortality following the use of electricity. Thomas reports twelve cases treated by electricity without a death. If he was correct in his diagnosis he could have got as good immediate results by laparotomy, and the subsequent condition would have been much better. I believe it is possible to reduce the mortality in such cases by laparotomy to one per cent. in the practice of experienced and successful abdominal surgeons. It may be contended that these patients can not always be operated on by experienced men; nor can electricity be always used by men who are familiar with its successful use in such cases. If it is necessary to refer the woman to some specialist in laparotomy, it will as often be necessary to refer her to some specialist in electricity, who has all the electrical appliances necessary for good results in such work. The services of a man experienced in abdominal surgery may be obtained as easily as the services of a man experienced in the use of electricity. If the woman recovers from the immediate effects of laparotomy she is permanently cured, and, the diseased tube being removed, she can not have a recurrence of pregnancy or disease on that side. Electricity may cause rupture of the tube, or the sac may rupture after death of the ovum, the result of contractions of the muscles of the tube in an effort to get rid of what is then a foreign body, just as in intra-uterine pregnancy. Rupture at three or four weeks would be as fatal as at three months; and unless the ovum is removed, it may cause serious or fatal complications; and until removed, the woman's life is at the mercy of accidents over which we have no control.

Cases are reported where these women continued to suffer so intensely after electrical fœticide that it finally became necessary to remove the diseased structures by laparotomy. The placenta may continue to grow after the death of the embryo or fœtus, and when finally separated may cause death by secondary intraperitoneal hæmorrhage, by septic infection, or by the formation of pelvic abscess. If the operation is not done until these women have fallen into a state of chronic invalidism, it will be complicated by the formation of adhesions, and the results will not be good. Dr. Joseph Price removed an ectopic gestation sac on September 11, 1887, before rupture or partial rupture of the tube and before the fourth month, but he was not positive in his diagnosis until he had removed the cyst. I can find no other case of the kind recorded.

The advocates of electricity have not generally recommended its use after the fourth month, but it has occasionally been used in advanced pregnancy as a preparation for laparotomy, believing it would also kill the placenta and lessen the dangers from hæmorrhage in a subsequent abdominal section. In such cases the use of electricity would necessarily be dangerous, for the fœtus and placenta could not be killed unless the electricity is conveyed by acupuncture into the sac. If ectopic pregnancy continues beyond four months and a half, the sac will generally not rupture and will go to full term, so that a laparotomy may be done in the interest of both mother and child.

Again, if the pregnancy continues in the folds of the broad ligament to four and a half or five months, the physician will frequently have no opportunity to use electricity until term—possibly not until after term—for these women will not always consult the doctor until they are suffering labor-pains, or until they cease to feel motions of the child, and think they have gone beyond their time. After rupture into the folds of the broad ligaments the treatment should *usually* be expectant until fœtal viability, and laparotomy should not be done unless rupture appears imminent from overdistension, contractions, or the life of the woman is in jeopardy. The life of the child should be an important element where it is possible to save it without greatly increasing the dangers to the mother, and, as the prognosis is not materially greater in a laparotomy at the eighth or ninth month than at the sixth month, the child should not *usually* be removed until it is viable. If the woman is even under our immediate observation after the primary rupture into the folds of the broad ligament, an ectopic pregnancy can not always be distinguished from an extraperitoneal hæmatocele until advanced to four and a half or five months, when the fœtal movements are felt, or the fœtal heart sounds are heard; and in an extraperitoneal hæmatocele the treatment should be expectant. In only the minority of the one in four cases of ectopic pregnancy with rupture into the folds of the broad ligaments do the patients go to term; in the majority the fœtus perishes and is absorbed with the hæmatocele, and may cause pelvic abscess, or remain quiescent as alithopædion. But if the tube ruptures into the peritonæum, unless abdominal section is done, death is the alternative.

Tait has seen over one hundred cases, and the patients all died except those upon whom he operated; and Goupil has seen none recover. The experience of these men accords with the experience of all men who have correctly observed the results of intraperitoneal rupture. The symptoms are so distinctive that a diagnosis is easily made; it could only be confounded with intraperitoneal hæmorrhage from other causes; but the indications for treatment in each instance would be the same—open the abdomen and arrest hæmorrhage. Intraperitoneal rupture does not generally cause death suddenly; in the majority of recorded cases it did not occur until from four to twelve hours after rupture, thus giving sufficient time to open the abdomen.

Tait says: "In very many of these cases a feature of great interest is the fact that the first attack of hæmorrhage is generally not fatal, and that the records yield incontestable evidence that it may require the repeated occurrence of bleeding to bring about the fatal issue." Having diagnosticated intraperitoneal rupture of the tube, or of the folds of the broad ligament, there is now no difference of opinion as to the indications for treatment. Open the abdomen at once, unless shock is so great that the operation would cause immediate death; in this condition resuscitate the woman before operating.

The mortality in all cases operated upon is 4·70 per cent., while the mortality of cases treated by expectancy is practically 100 per cent. Tait reports forty-two operations with but two deaths. His first operation resulted fatally because he did not then know how to treat the cyst, and in another case he operated on a woman in such profound shock that she was unable to rally.

The indications for the operation are:

1. To control hæmorrhage.
2. To extirpate the sac and other injured structures.
3. To cleanse the abdominal cavity aseptically and prevent septic infection.

Peritonitis should not be a frequent complication, for in post-mortem examinations in tubal rupture the peritonæum has generally been found healthy.

In laparotomy "all the possibilities are under the control of human intelligence" and "nothing is left to chance"; "it enriches our resources in cases of impending danger," and by it we can diagnosticate ectopic pregnancy where no fœtus can be found. The fœtus was absent in most of Tait's cases, but he found a placenta or fœtal membranes in all of them.

Where the fœtus is developed in the folds of the broad ligament laparotomy should not be done until after the eighth month, unless rupture of the sac is imminent, or the woman's life in danger, or the fœtus dead; for this delay does not materially add to the dangers of the operation, and is greatly in the interest of the child. Nor should we delay the operation until the beginning of false labor, for the prognosis would then be much less favorable for mother and child; the discouraging mortality in the primary operation, as shown by the statistics of Kiwisch, Henning, Hart, and Barbour, is largely due to this delay, as the children were often dead, or too feeble to live, before they were removed, and in many of the cases the mothers were *in extremis;* the operations were also crudely done, and hardly any two were by one man. Recent statistics indicate such encouraging results in the primary operation that there are now but few operators of recognized ability who recommend the secondary operation. In most of the successful secondary operations the women had fortunately escaped the usual complications that cause death, and firm adhesions had shut off the peritoneal cavity, so that the operation was comparatively simple, being little more difficult than opening a large pelvic abscess that had become adherent to the abdominal walls; but in one third of the cases where the primary operation is not done the patients die without any operation. The hæmorrhage is generally much less in the secondary operation, because the death of the fœtus is usually followed by diminished placental vascularity, gradual atrophy, and shrinkage; but this is not always true, and death from hæmorrhage in placental separation has occurred in the practice of experienced operators many weeks after the death of the child. If the operation is done before the end of the fifth month for rupture into the abdominal cavity, or for other reasons, before primary or secondary rupture, the incision should be made in the mesial line between the umbilicus and the pubes, and the fœtus and the membranes removed. Hæmorrhage is not necessarily an ugly factor here, for, if the membranes are rapidly and carefully separated down to the broad ligament, both ends of the vessels supplying the sac can be ligated and dangerous bleeding controlled. It is necessary to ligate the broad ligament *en masse*, so as to include the vessels as they enter and leave the placenta, for, if we ligate only the proximal end of the ovarian artery, there may be fatal hæmorrhage from its uterine end, because of its intimate anostomoses with the vessels entering the uterus between the folds of the other broad ligament. In other particulars the operation is similar to an ordinary abdominal section.

If the operation is not done until after the child is viable, it is best to avoid the peritoneal cavity by entering the gestation sac where it is adherent to the anterior abdominal walls, two or three inches from the linea alba. This is especially the correct treatment if we do not intend to remove the placenta, for, if the peritoneal cavity is opened, the membranes should be removed, if it is possible to do so without causing fatal hæmorrhage. It has not been decided by experienced operators just what is the best way to treat the placenta. Martin, Tait, etc., have removed it successfully, but our means to control hæmorrhage at this stage of pregnancy are so unreliable that there is always great danger of death from loss of blood.

Again, if the placenta is left *in situ* to slough and come away through an opening in the incision, the process is long, tedious, and exhausting, and very often causes the death of the woman.

Tait has recently recommended cutting the cord short and leaving the placenta in the sac to be hermetically sealed in an aseptic condition, after a fashion that he described. This is an excellent way to treat the placenta if it will prevent suppuration, so that all the membranes may finally be absorbed; but experience will have to decide the value of this method of treatment. The removal of the membranes would be the ideal operation if we had positive and reliable means to control hæmorrhage, and may be some one will discover how this can be safely done. In the mean time the method of treating the membranes must be selected by the operator to meet the indications in any particular case. The vessels may be ligated *en masse*, separate bleeding points ligated, or hæmorrhage controlled by styptics, such as iron, vinegar, or actual or galvanic cautery.

In conclusion, I will report a successful abdominal section for an ectopic pregnancy at three months and a half:

On November 17, 1889, I was called by Dr. H. K. Pusey to see Mrs. T., from southwestern Kentucky. She was thirty-two years old, was married twelve years, and had not been pregnant. After a careful examination, we diagnosticated ectopic pregnancy at about three months and a half; Dr. W. O. Rob-

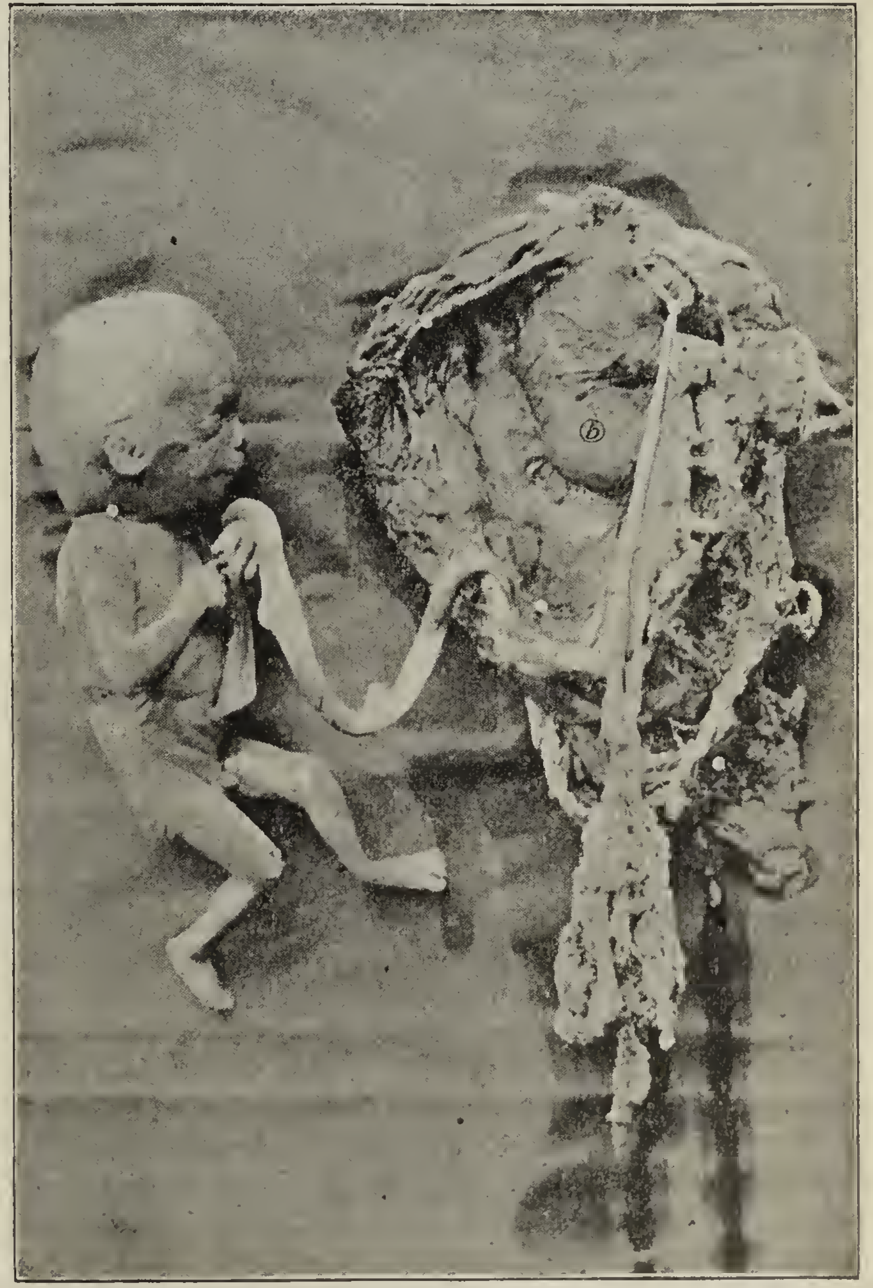

Fig. 1.—*b*, ovary.

erts also examined the woman, and concurred in our diagnosis. There had been no symptoms that positively indicated primary rupture of the tube, but the woman was suffering so much from mechanical pressure on the pelvic organs and from sharp cutting pains in the region of the tumor that we thought it unwise to allow the pregnancy to continue. An abdominal section was done on November 19th. The uterus was five inches and a half deep, was very large, and was adherent to the abdominal walls on the left side nearly up to the umbilicus, and three inches of a small intestine were firmly bound to the walls between the uterus and the mesial line. The pregnancy was in the folds of the right broad ligament, and the sac was adherent to the uterus, the pouch of Douglas, and the right lateral walls of the pelvis. The adhesions of the uterus and sac were quickly separated and the fœtus and placenta pulled out through the incision, with no attachment left except to the broad ligament. A double ligature was applied and the membranes cut away. Bleeding did not amount to more than a few ounces, and the woman was put in bed with a pulse of 80 and with no shock. A drainage-tube was used for nearly a week, and at no time was there an untoward symptom consequent upon the operation. On the fourth day and for a week afterward she had an exhausting diarrhœa and passed several large round worms. After the diarrhœa had been controlled she began to complain of severe pressure upon the rectum and bladder, and, in an examination, a large hæmatocele was found in the left broad ligament pressing low down into the pouch of Douglas. This finally suppurated and discharged into the rectum, and the patient is now convalescent. I was assisted in the operation by Dr. H. K. Pusey, Dr. A. M. Cartledge, and Dr. Henry Orendorf. The accompanying woodcuts were made from correct photographs of the specimen. This is my second operation within six months for ectopic pregnancy, and in both cases the conception was in the right tube and the uterus was pushed to the left side and extended nearly up to the umbilicus; and I wish to emphasize the fact that it was about as large as in an intra-uterine pregnancy at a corresponding period and in general appearance identical.

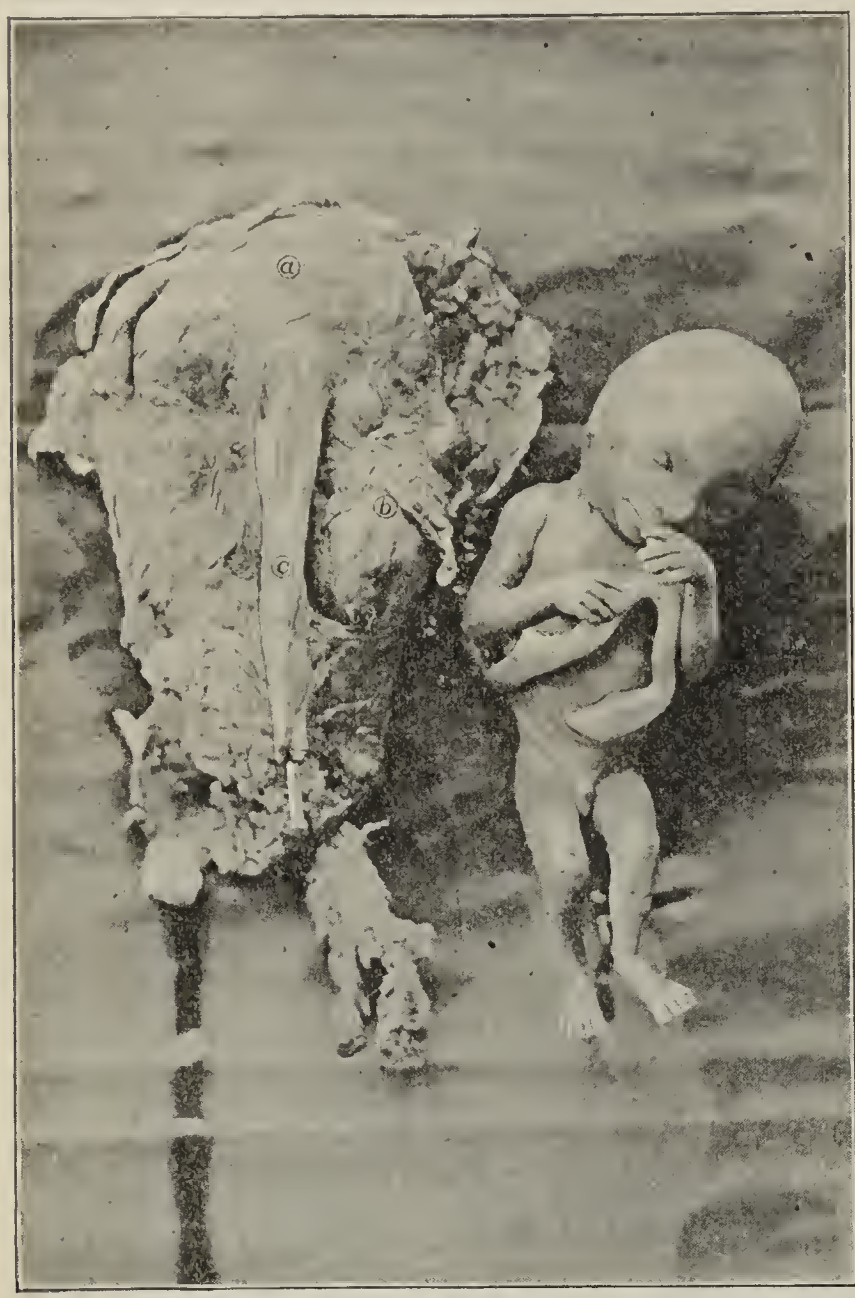

Fig. 2.—*a*, fimbriated end of tube; *b*, ovary; *c*, Falloppian tube.

In a careful examination of the specimen, I find conclusive proof that conception began in the outer third of the tube, but that the sac ruptured into the folds of the broad ligament, where the ovum continued to develop.

OBSERVATIONS ON STATION WITH REFERENCE TO RESPIRATION.

By GUY HINSDALE, A. M., M. D.,

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The present study is supplementary to an article published by me in April, 1887,* and was undertaken at Dr. Weir Mitchell's suggestion in order to ascertain what relations, if any, exist between respiration and sways. For this purpose the physiological laboratory of the Orthopædic Hospital and Infirmary for Nervous Diseases was used.† There were required a revolving cylinder provided with blackened paper and run by clock-work on which were recorded seconds and the movement of sway.

The curves of respiration were traced on a revolving drum by means of an index attached to a tambour, and this connected by a tube with a pneumograph. This instrument was after the pattern of that of Paul Bert as modified by Dr. Thomas J. Mays, and was attached so as to record abdominal respiration. The tracing showed at the same time the exact extent of antero-posterior and lateral sway revolved into lines made by vertically moving indices. These indices on the lightest rods were freely movable up and down, and were attached to silk threads moving on a pulley and running in one case to a band attached to the forehead, and in the other to a pulley situated at the side and thence to the

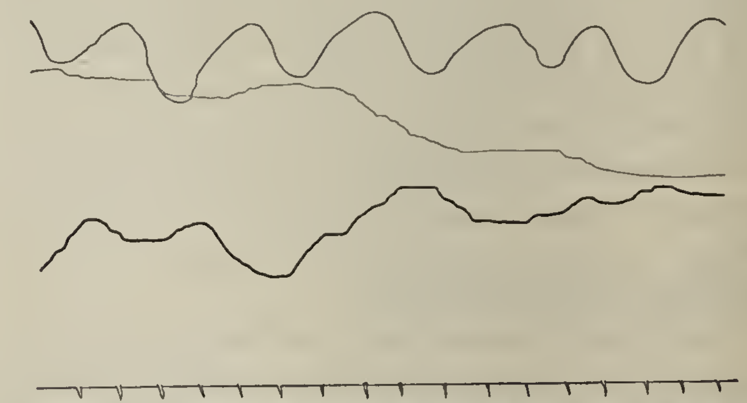

Fig. 1.—The upper line shows the curves of respiration. The upward stroke is expiratory; the downward stroke is inspiratory. The middle line represents lateral sway. The line falls and indicates motion to the left. The lower line measures antero-posterior sway. Downward strokes mean motion forward; upward strokes mean motion backward. Seconds of time are indicated at the bottom. From Van D., a healthy adult. Sway taken with eyes closed.

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* American Journal of the Medical Sciences.

† The former study was conducted in the physiological laboratory of the University of Pennsylvania.

side of the head-band so as to move with every lateral deviation. In conjunction with this the respiratory curves were recorded by the pneumograph.

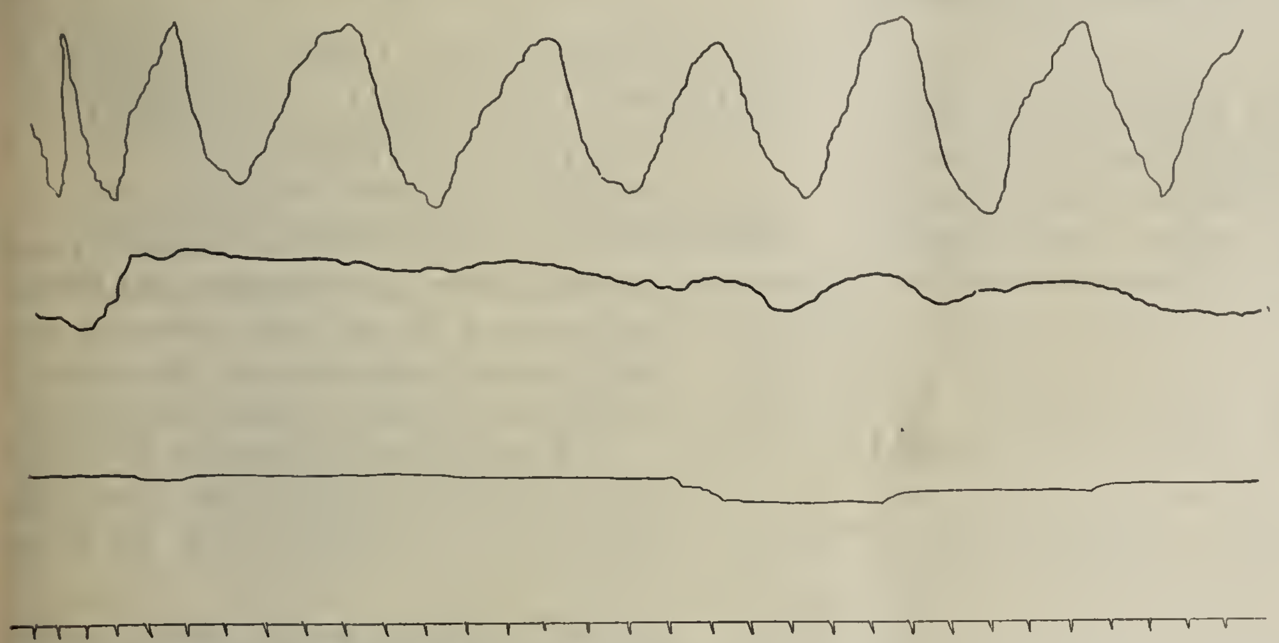

Fig. 2.—The respiration curves are unusually large and strong. Rate, 14 a minute. The middle line shows antero-posterior movement. There was little lateral motion. From Zuachs, aged thirty-five. Healthy except for a facial palsy.

The subjects were nearly all in good health, excepting three cases of phthisis which are noted at the end of this report. The object of the experiments was to ascertain whether respiration influenced sway.

Although the slightest movements of the body were recorded and a simultaneous record made of respiration, no connection between the two is discoverable, excepting that out of forty-six experiments a deep inspiration was accompanied by a backward movement of the head in two and a forward movement in one instance.

These results accord very well with those stated in my article of three years ago. The increase of sway when the eyes are shut is so evident upon examining the charts obtained in all these examinations and even clinically, when only the eye and a scale are needed to make the record, that it is surprising that others should not have arrived at the same conclusion. Dr. W. N. Bullard and Dr. E. G. Brackett* in their investigation conclude "that the antero-posterior movement is, on the average, decidedly greater with the eyes open than with the eyes shut, while the lateral movement is the same under both conditions, being, if anything, more marked when the eyes are closed." It is difficult to account for such a discrepancy unless it was in the method of observation. They used the square piece of board, held in position on the head by plates of spring brass, like the Oxford cap. This attachment was referred to in my previous article as being devised and used for a number of experiments, but was discarded as unsatisfactory in comparison with the use of indices on a revolving drum. The latter is the only way in which motion in two directions can be separately studied and where respiration curves and second-marks can be made simultaneously with these lines. In my experiments the subjects were first observed with the eyes open, and the subject was then told to close the eyes. The increased sway instantly occurred. In Dr. Bullard's and Dr. Brackett's cases separate observations were made with eyes closed.

No attempt has been made in these last cases to establish anything further as to direction of sway. It may, however, be said that an average of twelve normal cases showed an antero-posterior sway, eyes open, of 24 mm. (1 inch), which is identical with that given in an average of twelve cases in my previous article. The lateral sway in the previous investigation gave a somewhat higher average. The average respiration to the minute under normal conditions was recorded as 21·5.

From the 46 observations recorded, an average of the 12 healthy subjects in the standing position shows an antero-posterior sway of 24 mm. with the eyes open, and in 8 cases an average of 29 mm. with the eyes shut. The lateral sway in 12 cases shows an average of 9 mm., against 19 mm. in 11 cases. The closing of the eyes increased the sway antero-posteriorly 19 per cent., and laterally 110 per cent.

The three cases of phthisis studied were kindly sent to me by Dr. Thomas J. Mays, of this city. The results in this case are noteworthy for an increase in the amount of sway proportionate to the individual weakness and for an average increase in respiration equal to fifty per cent.

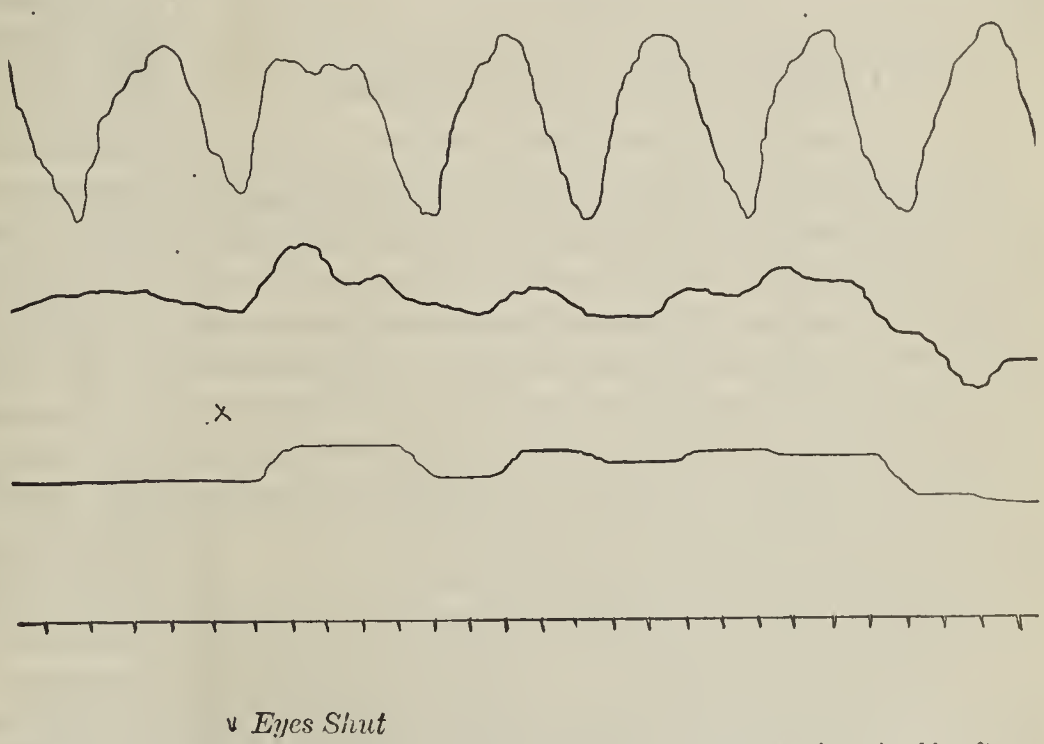

Fig. 3.—Same subject as in Fig. 2. Eyes closed. The increased sway is noticeable after × when the eyes were closed.

The expiration is represented by the line ascending from left to right. The expirations are at first sudden, then slowly prolonged, until inspiration begins, which is accomplished evenly. In other words, the retraction of the thorax is quick at first, then slow.

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* Boston Medical and Surgical Journal, Dec. 20, 1888.

Expiration occupies from fifty-three to sixty per cent. of the period of respiration, and is apparently not prolonged in these cases of phthisis.

Persons standing in an easy position, with one leg in front of the other and with the knee bent, were tested. The sway in these cases was slightly increased, probably owing to a lack of symmetry of position. In the sitting position the sway was greatly reduced. When reading aloud, reciting, talking, looking at right angles to the right, the sway was increased; and much more so when standing on one foot. If standing on the right foot, the subject tilted to the right, and if on the left he tilted to the left.

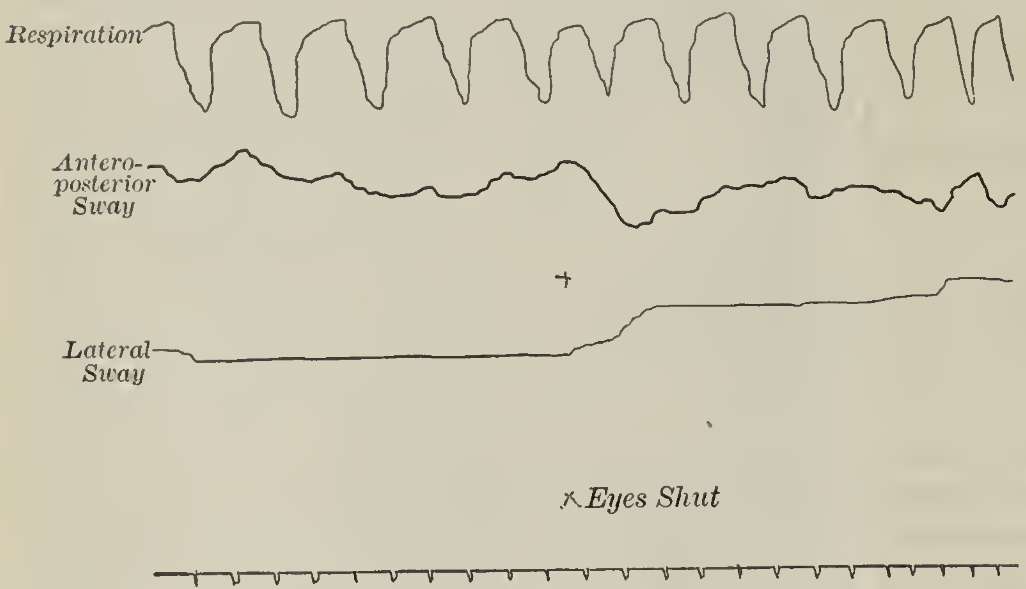

Fig. 4.—H. R., aged twenty-two, phthisis. Sudden sway forward and to right when eyes are closed.

As far as I have been able to discover, these are the first published tracings representing sway and respiration combined.

NOTE ON THE ALA CINEREA.

By N. E. BRILL, M. D., M. A.

One of the most striking features of the human medulla oblongata—one which has been heretofore characteristic of this division of the cerebral isthmus and distinguished it from that of almost every other animal—is the pigmentation of the cells of the ala cinerea. This pigmentation causes this nuclear mass to be thrown by its gray color into a relief from the general white appearance of the floor of the fourth ventricle. Hence no cerebral feature has been more accurately defined as a landmark in this region of the human brain than this columnar gray mass.

It has heretofore been supposed that this nuclear accumulation presented a gray color only in the human species. It has been recorded in the *Ateles melanochia*, and I have seen it in the *seal*. To these exceptions I can now add that of a dog (the field spaniel). In the animal of this species examined, the *alæ cinereæ* were as deeply gray as in most, and more so than in some, adult human brains. The difference, however, was in the shape of the column. While in man this outline is pyramidal, with sharply defined angles, in this dog it presented the shape of a truncated cone whose detached vertex was replaced by a hemisphere, and whose elements formed an angle of at least 85° with its base, so that it was almost cylindrical in shape.

TWO FATAL CASES OF EPIDEMIC INFLUENZA IN INFANTS.

By CHARLES G. KERLEY, M. D.,

RESIDENT PHYSICIAN, NEW YORK INFANT ASYLUM, MOUNT VERNON.

The following cases are of interest, as in general young infants were exempt from the recent epidemic, and, further, they occurred at the time, presented very nearly the same symptoms, and the autopsy in each showed practically nothing pathological.

They were taken sick, together with about thirty others, when la grippe was at its height, and were the only cases in which the disease proved fatal:

Case I.—John F., aged six months, previous condition healthy, gaining in weight, was taken sick with slight cough, diarrhœa, and vomiting. Temperature first day ranged between 99° and 101° F.; second day, 99° and 101°; third day, 103° and 105°; fourth day, 101° and 103·2°. Died on the fourth day; temperature at death, 103·2°.

Case II.—Lena F., aged fifteen months, previous condition fair, gaining in weight slowly, was taken sick with diarrhœa, vomiting, and slight cough. Temperature, first day, 102° to 103° F.; second day, 103° to 104°; third day, 101° to 101·6°. Died on the third day; temperature at death, 101·6°.

As the other symptoms in each were almost identical, I will give them together.

The cough was not severe; physical examination showed a mild bronchitis.

The gastro-intestinal symptoms were of the severity of an ordinary dyspeptic catarrh. The prostration, however, was entirely out of proportion to the other symptoms, being extreme in each case—in fact, they were in a semi-comatose condition after the first twenty-four hours, presenting the appearance of having been suddenly struck down by a virulent poison, or of a child in the last stages of cholera infantum. The pulse was about 150 during the first twenty-four hours; later it could not be counted at the wrist.

The eyes were sunken and rolled up, or open and staring; did not notice anything.

The pallor was extreme; the face drawn and pinched. The pupils were even, and responded slowly to light. Patellar reflex and sensation were normal. No convulsions or twitchings at any time. Considerable food and whisky were taken—were swallowed when put in the mouth. Brandy was given hypodermically, but the effect was very transient. One child lived three, the other four days after the development of the first symptoms.

They were under the care of a trained nurse night and day, so drugging was out of the question.

The organs in both were healthy, with the exception of slight hypostatic congestion of the lungs in one.

The American Veterinary College held its fifteenth annual commencement on the 5th inst., graduating a class of thirty-seven. A communication was read from the French Minister of Agriculture stating that the degree conferred by the college would be recognized by the French veterinary schools.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 15, 1890.

THE FATAL AFTER-EFFECTS OF CHLOROFORM.

The occasional fatal effect of chloroform on the operating-table is only too well known, though we think not sufficiently heeded in some countries. But, if the patient survives the operation only to die afterward in the course of a few hours or several days, the anæsthetic employed almost invariably escapes blame. Some other agency, such as shock, peritonitis, or the like, is usually made the scape-goat. Of late, however, the profession has been growing awake to the fact that every death after surgical operations is not due to hæmorrhage, peritonitis, or septicæmia, the three *bêtes noires* of the surgeon. More careful observations and searching autopsies have shown that in many cases the fatal termination was due to some disease of the viscera. This may have existed prior to the operation, which merely had the effect of making an unhealthy organ worse, or, what is not at all unlikely in the light of recent observations, the disease was evoked during the operation, or, in other words, by the anæsthetic employed.

As early as 1850, Casper drew attention to what he termed chronic chloroform intoxication after surgical operations. Shortly after this Langenbeck had a death seventeen hours after a scapula extirpation, which he attributed solely to the narcosis. Berend subsequently published several cases of death occurring up to within sixty hours after operations, which careful autopsies failed to show any cause for, and which he properly attributed to the narcosis. Since then Ungar and Strassmann have shown, by a number of experiments with chloroform inhalation in animals, that a fatty degeneration of the internal organs—viz., the heart and liver—takes place without any palpable blood changes, and that this fatty degeneration may be the chief or sole factor of a fatal termination. Following in the same line of research, Ostertag has quite recently made a number of experiments on animals, and these he has published *in extenso* in Virchow's Archiv. Rabbits, guinea-pigs, rats, pigeons, cats, and dogs were used for the experiments. Chloroform mixed with air was administered until complete narcosis was produced; the anæsthetic was then withdrawn and not applied again until it was observed that its effects were passing off. It was found that the effects of chloroform varied with the different kinds of animals and with different individuals of the same kind. The time during which the animals were kept in a state of narcosis varied from half an hour to four hours and a half. The same animal was chloroformed daily for several days in succession. As a result of his observations the author makes the following deductions: 1. After long-continued chloroform inhalations there may be set up in various animals a fatty degeneration of the internal organs—viz., fatty infiltration of the liver and fatty metamorphosis of the heart, of the muscles of the skeleton, of the kidneys, and of the stomach. 2. The fatty metamorphosis of the above-named organs is due to the effect upon the blood (destruction of the red blood-corpuscles) and upon the tissue cells themselves. 3. Certain individuals manifest a great susceptibility to the injurious effects of chloroform, and succumb after a shorter or longer administration of it. 4. The fatal after-effects of chloroform show themselves in a paralysis of the heart, which is at times brought about by only slight anatomical changes of the myocardium and a gradual accumulation of carbonic-acid gas in the blood.

Although, so far as we know, ether is used much more extensively in this country than chloroform, the foregoing experiments with the latter agent sound a warning note against the indiscriminate use of either anæsthetic. For, although it is generally believed that ether is not so likely to paralyze the heart as chloroform, its long-continued administration may be just as injurious in its after-effects, especially upon the kidneys. The practical question that arises is, Do not surgeons at the present time display too much conservatism in arresting hæmorrhage—is not too much valuable time consumed in saving a few ounces of blood to the patient while his whole system is being poisoned by the prolonged administration of the anæsthetic? It is to be feared that we have been lulled into an unsafe slowness in operating by the sense of certainty that the patient's sensations are abolished, and that we are likely to forget that our tardiness may be the means of setting up a rapidly fatal or chronic disease of the vital organs.

NURSES AND DOCTORS.

One of the most commendable movements of the last quarter of a century is the establishment of training schools for the education of nurses in connection with our large hospitals. The hospital trained nurse, since the time when Florence Nightingale went to minister to the sick and wounded soldiers in the Crimea, has made herself an indispensable need, and since the movement of educating women for this high calling was set going, thoroughness of work has been the object of those who have had the undertaking in hand. Not only has the nurse-graduate of to-day had a moral and educational training, but, before she leaves the wards of the hospital, disease in its manifold forms and varieties has become familiar to her. She has had opportunities in these wards of studying more than disease; she has spent her whole course of two years in the company of sick persons and has learned how they think and act, and she has acquired the art of ministering to their ever-present sufferings. Her education, in short, is clinical, but not entirely clinical, for the practical work is supplemented by a modicum of book work, enough to enable her to see the reason why symptoms occur and the principles on which an attempt is made to relieve them.

Under our present system of medical education does the young doctor enter upon his career as well equipped? After his three years' training he is supposed to have learned as much as the nurse and a great deal more. He is expected to take charge of cases, form the diagnosis, and direct the treatment, hygienic and medicinal, and the nurse is to occupy a subordinate position and obey orders without a murmur. Now, suppose that both start with their first private patient, which knows most about the case?

Take a case of typhoid fever, for example. The young doctor has read more, he understands the pathology better, and very probably can repeat the list of complications (learned at a quiz-class) more glibly than the nurse can. But he has never watched a case from beginning to end, he has not had an opportunity himself of intimately observing all the ins and outs of the disease, the peculiarities of patients, the frequency of occurrence and significance of complications. In short, he is worried and perplexed over his case and can not help showing it, while the nurse is at her ease and feels at home in her work. This is soon perceived by the anxious friends, and dependence soon comes to be placed upon the words and opinions of the trained nurse, while the reputation of the doctor gradually wanes. The fact is, the educational system by which our young friend was made a doctor is at fault. The nurse spent all her pupilage in the wards, the doctor spent all his time in the lecture-room. He learned science, she learned art; and patients like and admire art, while they, at the time of their sickness at least, do not appreciate the beauties of science. Bedside experience was not required of him as a student, but nothing else but bedside experience is required of him as a practitioner. A dissecting-room and dead-house experience and training afford no comfort to a living patient.

The moral to be drawn from this comparison is obvious. If we are going to educate our nurses to such a high degree, we must educate our doctors to a very much higher one, for, to retain the confidence of the patient, the physician must be in supreme control of the case and of every one in connection with it. A nurse is the assistant of the physician, as woman is by nature the helpmeet of man. She understands her position when she accepts her duties, and these we find are done thoroughly; we ought, therefore, to see that our part of the duties is properly performed. Until young practitioners are sent out with more clinical training this happy state of affairs can hardly exist.

MINOR PARAGRAPHS.

THE PROPER ADMINISTRATION OF QUININE.

In the Revue général de clinique et de thérapeutique this subject is considered. According to M. Jaccoud, there is a great difference, clinically and therapeutically, between the real and the apparent onset of a paroxysm of intermittent fever. The apparent onset is at the beginning of the chill. The temperature is found to be high—but this rise is by no means sudden—several hours before it has begun its gradual upward course. The real onset is not due to elevated temperature, but to "an increase in organic combustion, characterized by an augmentation of urea in the urine." If the urine twelve hours before the attack has contained twenty grammes of urea to the quart, two hours before the chill the amount will be increased to thirty-five grammes. Chronologically speaking, then, the first phenomenon in intermittent fever is not the chill, not the elevation of temperature, but the greater or lesser increase of urea in the urine. This increase takes place at different times in the various forms of malarial fever. In the tertian it is six or eight hours earlier than the chill; in the quartan type it may be twelve, fifteen, or eighteen hours earlier. Thus the proper time for administering quinine is fixed by the nature of the disease, its action being felt six hours after the remedy has been given. It will be perceived that in the quotidian type of intermittent fever a dose of quinine given six hours before the chill has not time to modify it, because the real onset occurs two hours before this outward manifestation—the chill—and therefore, to be effective, the drug must be given eight hours before this is expected. In tertian fevers the proper time for giving quinine is twelve hours before the chill, and in quartan fever it is eighteen hours. Large single doses are the most effective, because the drug is rapidly eliminated by the urine. Small and repeated doses never produce the action of the whole amount prescribed. When any gastric disturbances make small doses necessary, the whole dose should be given in such fashion that it is disposed of in one hour or less.

THE CRIME OF MEDICAL NEGLECT.

Dr. Rooney, coroner of Brooklyn, having in his district a settlement of those fanatical believers in faith-healing and disbelievers in medicine called the "New Evangelists," has observed with concern the growing death-rate among those people, not alone by diphtheria, but by other affections of the non-contagious class. Fortunately, it would appear, the highly infectious diseases have not attacked them; but, in view of the havoc that might be wrought in the community if such an attack should occur, and in view of the defects in our laws bearing upon the crime of medical neglect of minors and others, it is reported that Dr. Rooney has under consideration the subject of more stringent and explicit regulations. These will probably be provided for in a bill which is to be framed to meet the newly risen dangers to the public health. These people, for the most part, profess to be obedient to the laws of the land, and it might be well to enact a law that will make it plain to them that it is a criminal thing to neglect to employ agencies of known curative power, where infants and other helpless persons are involved, and criminal, also, to wantonly neglect isolation and quarantine in cases of contagious disease. Within a few days past, fresh cases of this kind of neglect have been called to the attention of the Grand Jury of Kings County, which has found bills of indictment against the accused faith-curers, and has urged the immediate prosecution of the charges. New laws must be made as emergencies arise; the punishment must be made to fit the crime, even if that crime is an outgrowth, and perpetrated in the name, of a religious belief. *Salus populi suprema lex.*

Since the foregoing was written it has been announced that the persons in question have informed the authorities of their intention to provide medical attendance for their sick in the future.

THE INFLUENCE OF INFLUENZA UPON DISEASE OF THE FEMALE GENITALS.

Biermer has shown that uterine hæmorrhages may be caused by the influenza, menstruation being resumed under its influence with those who suffer with amenorrhœa. Gottschalk has seen four cases during the recent epidemic in which Biermer's observations seemed to be confirmed. The hæmorrhage in these cases appeared on the first or second day of the disease, was profuse, and was attended with pain, and, in two cases, with difficult urination. The hæmorrhage continued from five to eight days and was checked by means of vaginal irrigation with hot water and the use of *Hydrastis canadensis.* In all the cases there was decided enlargement of the uterus, with great sensitiveness of the mucous membrane to the passage of the sound. Nothing unusual could be discovered as to the condition of the uterine appendages. The hæmorrhage was thought to be due to acute inflammation of the uterine mucous membrane. In two other cases it was believed that abortion was precipitated through the influence of the influenza. The number of cases reported is so small that one is hardly justified in assuming a *propter hoc* conclusion with reference to the experience of these two observers. Still, it would not be a matter of surprise that the intense congestion of the mucous membrane of the air-passages which is so common an accompaniment of influenza should be shared by other mucous membranes, and especially by one which is so sensitive to congestion as the mucous membrane of the uterus.

MEDICAL LAKE IN WASHINGTON.

At an hour's journey from Spokane Falls is Medical Lake, in the city of Middlebaugh. Within a very short time a considerable settlement has been established on the borders of this lake. The town has wide streets, excellent shops, and many neat dwellings. The alleged curative properties of the waters of the lake have been the incentive to this remarkable growth. The lake covers an extent of over a thousand acres and is encircled by low wooded hills. The waters are said to hold in solution salts of sodium, potassium, lithium, calcium, magnesium, iron, and aluminium, also sulphur and borax. A great variety of ailments have been reported cured by bathing in the lake, chief among them being rheumatism and certain diseases of the skin. One of the properties of the water is that it forms a lather whenever it is agitated violently or rubbed quickly on the hands or the surface of the body. No fish or other living thing can be found within these waters, and the lake itself is rather repulsive and muddy in appearance. Factories have been established for evaporating the water and packing the salts obtained. It is the intention to make Medical Lake attractive, in the summer season especially, as a health resort for the citizens of Spokane Falls.

THE ILLUSTRATED MEDICAL NEWS.

The London Medical Recorder notes with regret the discontinuance of the journal named above, after an existence of nearly a year and a half. The enormous expenditure incidental to the production of its colored plates and other illustrations has proved too much for its financiers pending the general approval of the profession, which would doubtless have been accorded ultimately. The plates were for the most part of very great merit, says the Recorder, and, if the text did not quite equal them in excellence, it was the misfortune rather than the fault of the editors, whose enterprise was worthy of all praise.

OUBAIN AND STROPHANTHINE AS LOCAL ANÆSTHETICS.

In the transactions of the *Société de biologie* (Fortschritte der Medicin, Feb. 1, 1890) Dr. E. Gley describes the anæsthetic effects produced by oubain and strophanthine (Arnaud's) when three or four drops of a 1-to-1,000 solution are applied to the conjunctiva. The experiments were made upon rabbits, and the anæsthesia was complete in from five to ten minutes, the effects lasting two or three hours. Some myosis is caused by the drugs, this condition appearing later and disappearing earlier than the anæsthesia. No disagreeable symptoms accompany their action, particularly no inflammatory irritation. Oubain is a crystalline glucoside procured by Arnaud from the wood of an African tree (an *Apocynum*) which serves the Somalis for the preparation of arrow-poison. It is similar in its effects upon the heart to strophanthine, but three or four times as poisonous. As regards strophanthine, Steinach has shown (Wiener med. Wochenschrift, 1888) that Merck's preparation has no local anæsthetic action, but that Arnaud's has this effect, proving, therefore, that there are two different alkaloids bearing the same name.

COURT OBSTETRICS.

During the last year a curious book has been published in Paris, the work of G. J. Witkowski, a man of obstetrico-historical tastes, entitled Les accouchements à la cour, an octavo volume with two hundred and eight illustrations. The author has collected together all the curious incidents and personal peculiarities noted during the pregnancies and accouchements of the female sovereigns of all nations, from the most remote period up to the present day. The particular ceremonial observed in the lying-in chamber, as well as the fêtes and rejoicings consequent on the birth of a Dauphin, are described in detail, including many very interesting particulars never generally known and now entirely forgotten. Among other histories is given *in extenso* that of the six confinements of Maria de Medici, by Bourgeois. The author devotes a great deal of space to the accouchements of the Duchess of Berry, citing the most interesting passages in the voluminous memoirs of Deneux, the manuscript of which is in his possession. We have not ourselves had the pleasure of perusing this remarkable collection of obstetric tales, but are indebted to the Revue des sciences médicales for an account of M. Witkowski's work.

THE RIVAL FRENCH UNIVERSITIES IN CANADA.

The troubles which have been going on all winter in the rival French medical colleges in Montreal, to which in a former issue we alluded, are far from settled. Those in favor of an amalgamation have appealed to the Legislature of the Province of Quebec for a charter of incorporation, and those who are opposed to union at any price have been obliged to bring all the political influence they can command to oppose the bill. As an instance of the curious mixture that has taken place of religion, politics, and medicine, we give the substance of the speech made by Mr. Mercier, the Premier of the Provincial Parliament, in defense of the bill, as reported by the Montreal Gazette:

"Mr. Mercier supported the bill for four reasons: (1) there was a change in the opinion of the clergy of the district of Montreal and they now advocated a union between the two schools; (2) Rome was also in favor of such a union; (3) the majority of the school of medicine were in favor of it, and he accepted the voice of the majority as the minority had not shown them to be in the wrong; (4) he hoped the bill would be so amended as to guarantee the autonomy of the school of medicine."

LIFE INSURANCE WITHOUT MEDICAL EXAMINATIONS.

One of the large London companies has announced that it will shortly revert to a form of assurance without physical examination. The British Medical Journal devotes a leader to the subject, and reminds its readers that in the early days of life insurance a medical examination was not considered necessary, but that during the past forty or fifty years the feeling has grown upon the companies that that should be changed, until at the present time all the important British companies insist upon a more or less thorough examination. Perhaps now the pendulum is about to swing back under the lead of the Sun Life Assurance Society. The proposed amended scheme of that society will not insist upon the personal examination, but it does not throw away all safeguards, as will be plainly recognized in the fact that five years must elapse, as a kind of probationary period, before the insurance is an accomplished fact. In the event of death occurring in the first five years all the premiums paid will be returned to the estate of the deceased with compound interest at five per cent. At the end of the five years the policy-holder may make a declaration as to the state of his health, and has to accept an endowment policy payable at death or in twenty years from the date of issue.

THE NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.

The twenty-first annual report shows a gratifying condition of affairs in a society which claims attention from the medical profession in this State, not only as a worthy charity within limits which are of special significance to every medical man, but as a very favorable life insurance investment. The membership is now over 700 and is rapidly increasing. It should be a matter of interest to every member, and indeed to every member of the profession, that this society be so sustained and developed that the reproach should no longer be heard that physicians die penniless. With proper enthusiasm the membership could readily be increased to 5,000 or even more, for physicians from all parts of the State are eligible. We ask the earnest attention of our *confrères* to this important matter. Any information upon the subject will gladly be furnished by the president, Dr. Daniel Lewis, 62 Park Avenue, or the secretary, Dr. N. G. McMaster, 322 East Fifteenth Street.

THE BERLIN INTERNATIONAL CONGRESS.

The General Secretary of the Berlin International Congress states that reductions in fares have been arranged for Americans who attend the Congress, through the agency of Brasch and Rothenstein, of Berlin, and of the Hamburg American Packet Steamship Company. The reductions will even be found to apply to travel on this side of the Atlantic. The assistance of the firm named will be given gratuitously to any member of the Congress who may apply to them for particulars as to expenses, routes of travel, and European excursions supplementary to the convention.

VIVISECTION IN PHILADELPHIA.

Under this title, we alluded last week to a newspaper report of the prosecution of a lecturer in the Medico-chirurgical College, of Philadelphia, for cruelty to animals. The report had it that the charge was brought by the president of the Anti-vivisection Society. We are glad to learn that in that respect an injustice was done the president, Dr. W. R. D. Blackwood, who assures us that he used his utmost personal endeavors to prevent the prosecution.

THE UNCROWNED QUEEN OF PHILANTHROPY.

The celebration in England of the seventieth birthday of Florence Nightingale will take place in May, and a project is on foot to make the event memorable and of almost national significance. She herself, although a confirmed invalid, is said to be looking forward to the day with all the eagerness of a child. It is reported that the Queen will not allow the day to pass unremembered; the Prince of Wales will participate in the public proceedings of the London meeting, which will be held at the Nightingale Home at St. Thomas's Hospital; and no town of importance throughout Great Britain will be without some form of celebration. Miss Nightingale will spend the day at Lea Hurst, her own inherited estate, in Derbyshire, where she is "passing through the evening of life calmly and peacefully." Her physical condition is such, however, that it will be impossible for her to enter personally into any part of the proposed commemoration of her birthday and the life of philanthropy that followed it.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 11, 1890:

DISEASES.	Week ending Mar. 4.		Week ending Mar. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	15	5	8	2
Scarlet fever	84	7	84	10
Cerebro-spinal meningitis	3	4	3	3
Measles	129	6	170	10
Diphtheria	108	27	111	43
Varicella	6	0	6	0

The New York Eye and Ear Infirmary.—The corner-stone of a new building for the institution is to be laid to-day (Saturday). The circular announcing the fact says: "As the infirmary is the oldest institution of its kind in the country, the occasion, it appears to us, is one deserving of special notice at the hands of our local press. This event will bring together a notable company, no less on account of its municipal, scientific, and historic interest, as the distinguished character of the gentlemen who will take part in the ceremonies. The Hon. Chauncey M. Depew will preside, the Right Rev. Henry C. Potter, Bishop of New York, will make the opening prayer, while the Hon. George William Curtis will deliver the principal address. The New York Eye and Ear Infirmary was founded in 1820. It was organized with a staff of two physicians, and the first year gave relief to six hundred patients. To-day the staff is represented by forty-six surgeons of the highest rank, while the number of patients is now annually close upon twenty thousand. The institution has gradually accumulated an endowment fund of $250,000, a sum fairly sufficient for its maintenance, but none of this sum can be diverted to building purposes without seriously crippling its resources and circumscribing its field of work. Yet a new building is an imperative necessity, on grounds of sanitation as well as those of lack of room for practical operation, not to mention laboratory work, ample facilities for which should be provided in connection with every institution of this character. The needs being as stated, the trustees and surgeons some time ago set about to raise a building fund. To date about $70,000 are subscribed, in large part the personal gift of the trustees and surgeons themselves. About $30,000 more is needed to complete the enterprise as now projected. This amount it is hoped a generous public will in due course provide."

St. Mark's Hospital, at No. 66 St. Mark's Place, formerly known as the Association Hospital, supported by contributions from various relief associations and the attending medical staff, has been reorganized and is to be conducted on a better financial basis than heretofore. Among the medical members of the incorporators are Dr. Leonard Weber, Dr. H. J. Garrigues, Dr. W. F. Mittendorf, Dr. A. M. Jacobus, Dr. E. F. Brush, Dr. C. A. von Ramdohr, and Dr. H. J. Boldt.

The Tenth International Congress.—At the request of the officers of the Congress, Dr. A. Jacobi, of New York, asks that publicity be given to the following circular:

"*Invitation for an International Medical and Scientific Exhibition.*—In connection with the Tenth International Medical Congress, to be held in Berlin, between the fourth and tenth of August, there is to be an International Medical and Scientific Exhibition. The exhibits will be of an exclusively scientific nature, as follows: New or improved scientific instruments and apparatuses for biological and strictly medical purposes, inclusive of apparatuses for photography and spectral analysis as far as applicable to medicine. New objects and preparations in pharmacological chemistry and pharmacy. New foods. New or improved instruments subservient to any of the departments of medicine, including electrotherapy. New plans and models for hospitals, convalescent homes, and disinfecting and bathing institutions and apparatuses. New arrangements for nursing, including transportation, baths, etc. New apparatuses in hygiene. Applications or inquiries inscribed 'Ausstellungs-Angelegenheit,' and accompanied with a printed card containing the name and address of the firm thus applying, ought to be directed to the Secretary-General, Dr. O. Lassar, Carlstrasse, No. 19, Berlin, N. W., Germany."

The Society of the Alumni of Charity Hospital.—At the last meeting, held on Tuesday, the 11th inst., Dr. E. L. Partridge read a paper on Some Hints in the Management of Breech Presentations, and Dr. G. T. Jackson read a paper on Seborrhœa.

The Kings County Medical Association.—The meetings of this association are now held on the second Friday of each month, and not on the first Tuesday, as printed in the last issue of the Medical Register. The present place of meeting is in the hall of the Central Post Office, Brooklyn.

The University of Louisville.—The fifty-third annual commencement of the medical department was held on February 28th, on which occasion there were graduated 145 candidates, being the largest class ever sent forth from that college.

The Illinois State Board of Health.—Dr. J. H. Rauch has resigned his position as Commissioner of Health, by reason of its exacting too much of his time. It is reported that he will continue to hold the secretaryship of the board.

Hypnotism in the French Army.—The French Minister of War, says the British Medical Journal, has issued an order forbidding the surgeons of the army to experiment with hypnotism upon the soldiers.

A New Dermatological Society.—At Vienna, according to the British Medical Journal, a new society for dermatologists was organized, on February 6th, under the presidency of Dr. Kaposi. The meetings will be held twice a month.

The Physiology of the Tonsils.—In the matter of Dr. W. H. Thayer's question, published in the last issue of the Journal, on page 269, a correspondent suggests that the article may have been Dr. Spicer's, published in the British Medical Journal for September 15, 1888.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 2 to March 8, 1890:*

Kimball, J. P., Major and Surgeon, is granted leave of absence for twenty days. Par. 1, S. O. 25, Department of the Missouri.

Hoff, J. Van R., Captain and Assistant Surgeon, is granted leave of absence for one month. Par. 1, S. O. 26, Department of the Missouri, March 5, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending March 8, 1890:*

Rush. C. W., Passed Assistant Surgeon. Ordered to the Navy Yard, New York.

Anzal, E. W., Passed Assistant Surgeon. Ordered to the U. S. Steamer Galena.

Schofield, W. K., Medical Inspector. Ordered for examination, preliminary to promotion to Medical Director.

McMurtrie, D., Surgeon. Ordered for examination, preliminary to promotion to Medical Inspector.

Gates, Manley F., Assistant Surgeon. Detached from Navy Yard, League Island, and ordered to the U. S. Steamer Kearsarge.

Harris, H. N. T., Assistant Surgeon. Detached from the U. S. Steamer Kearsarge and ordered home.

Society Meetings for the Coming Week:

Monday, *March 17th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *March 18th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburgh Medical Association; Baltimore Academy of Medicine.

Wednesday, *March 19th:* Medico-legal Society; Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; Medical Society of the County of Allegany (quarterly), N. Y.; New Jersey Academy of Medicine (Newark).

Thursday, *March 20th:* New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *March 21st:* New York Academy of Medicine (Section in Orthopædic Surgery); Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *March 22d:* New York Medical and Surgical Society (private).

Letters to the Editor.

ENDOSCOPY BY INFLATION.

26 Irving Place, New York, *March 11, 1890.*

To the Editor of the New York Medical Journal:

Sir: In the issue of your valuable Journal of March 8th my attention was called, in the correspondence column, to the fact that I had failed to give von Antal credit for his Aero-Urethroskop in my article entitled The Use of Air in the Examination and Treatment of Cavities and Canals with the Aid of Reflected Light.

I regret very much indeed that I was not familiar with his instrument or its published description when I wrote my article, as I should have taken great pleasure in referring to the work he had done. The fact that the indications to be met in the examination of the urethra and other canals presented themselves to my mind in a similar light as they had to another is only an example of one of the frequently occurring coincidences of ideas among different workers in the same field of labor.

As to the instrument itself, I would call attention to the following points of resemblance and difference—viz., for distension of the urethra both instruments involve the use of atmospheric air forced from a rubber bulb through an endoscopic tube, made of various lengths and calibers, and fitted with an expanded cover having a sheet of glass inserted at an angle to the line of vision. Von Antal's instrument has two rubber bulbs with a stop-cock at the lower side of the cover-glass; requires an obturator, to facilitate its introduction, and a concave shield, attached to each endoscopic tube, to fit over the glans penis and hermetically seal the meatus; and, lastly, has a sheet of glass inserted in the lower narrow end of the expanded *conical* cover. My instrument has one rubber bulb, with an automatic valve, which renders a stop-cock superfluous. It requires no obturator, but has the lower end of the urethral tube cut off obliquely to make its introduction easy. The other, or upper, end is conical to fill out the meatus. Lastly, the sheet of glass is inserted at the large proximal and oblique end of a *cylindrical* cover, to facilitate its cleaning and polishing. One cover is made to fit over all endoscopic tubes for the urethra, the rectum, the œsophagus, or the stomach.

I therefore maintain that my instrument is simpler and more useful, can be manufactured at a lower price, and is more easily cleansed and rendered aseptic. Franz Heuel, Jr., M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of January 22, 1890.

The President, Dr. C. K. Briddon, in the Chair.

(*Concluded from page 272.*)

Death from the Effects of Ether Vapor administered by the Rectum.—A man, about forty-eight years of age, of intemperate habits, yet in fair physical condition, was operated upon at the Polyclinic in October, 1889, for the restoration of a portion of the lower lip that had been removed on account of epithelioma six months previously. The patient was first etherized by the respiratory tract with the Allis inhaler, and, when he was thus fully narcotized, insensibility was continued by rectal etherization. Four ounces of ether were placed in a bottle through the cork of which a small conducting tube extended. The bottle was immersed in water at 110° or 120° F., and the vapor slowly allowed to escape into the rectum. The operation was finished in twenty minutes; only half of an ounce of ether was administered by this method. The patient reacted well, and, when seen four hours later, complained only of a sensation of discomfort about the navel, which was so insignificant that no attention was paid to it. At 8 P. M., eight hours after the operation, he got out of bed and went to the closet, about forty feet from his bed. He repeated this four or five times up to twelve o'clock, but did not complain, and the orderly did not become sufficiently alarmed to summon the house-surgeon until he found that the patient had passed some bloody fluid in bed. The patient was then in collapse and died at three o'clock, fifteen hours after the operation. At the autopsy both lungs were found slightly emphysematous, and pleuritic adhesions and hypostatic congestion existed at the left apex. There was a small quantity of fluid in the pericardial sac; the valves were normal; there was a post-mortem clot in the right ventricle. The liver was large, firm, and pale. The spleen was normal; the kidneys were congested, but the capsules were not adherent. The stomach was empty, but distended with gas. The upper two thirds of the small intestine were empty; in the lower third the mucous membrane was intensely congested; and the organ contained fluid resembling blood and a few blood-clots. The large intestine was distended with gas and contained a quantity of bloody fluid; the mucous membrane was intensely congested.

The speaker could arrive at no other conclusion than that the patient had died from ileo-colitis, with hæmorrhage, caused by the action of the ether vapor on the intestinal walls or on the sympathetic ganglia connected with them. Since the introduction of rectal etherization into this country, several years ago, he had employed it in about thirty cases. In only one instance had alarming symptoms supervened, and in this case the assistant had allowed the vapor to pass in too rapidly. The excess had been immediately withdrawn by means of a large rubber tube passed into the rectum and colon, the escape of vapor being aided by elevating the pelvis and by pressure on the abdomen. Up to the date of the disaster now reported he had not believed that any dangers were incurred except by employing too much ether in too short a period of time. This experience had entirely dissipated that belief, and he was forced to conclude that ether by the rectum gave rise occasionally to dangers which could not be foreseen and therefore could not be avoided, and should be employed only in those exceptional cases where extensive and otherwise dangerously prolonged dissections about the mouth and pharynx were undertaken.

Dr. L. S. Pilcher said that he would like to elicit something more definite as to the real advantages secured up to the present time in Dr. Wyeth's case of nerve suturing. He was particularly interested in this subject.

Dr. Wyeth said that the operation was undertaken more directly for the prevention of further development of the large ulcers due to the cutting off of the trophic nerves of that part of the body and because the patient was rapidly approaching that condition which would call for amputation of the member. Following the reunion of the nerves and the restoration of sensibility and of trophic control these ulcers had disappeared.

Dr. Pilcher said that he had lately had occasion to observe four cases in which it had been necessary to suture the median nerve. In two of these the sutures were applied immediately after the accident in which the nerve had been cut. In both of these cases considerable sensation had returned over the region of the nerve distribution by the time the general wound had healed. In the third case forty-eight hours had elapsed before the suturing was undertaken, and at the end of six weeks no sensation had returned. In the fourth case, that of a man fifty-seven years of age, the suture was applied two weeks after the injury. Although good union was obtained throughout the wound and the patient gave persistent attention to his hand, more than six months had elapsed without more improvement than the return of gross sensation with some pain in the parts supplied by the median nerve. The speaker would be glad to know if the experience of the members went to show that there was any hope of future improvement in this last case.

Dr. C. McBurney thought that the outlook in Dr. Wyeth's case was extremely good. The period was short certainly, but when so great improvement had taken place, such as the return of sensation and healing of the ulcers over the area of the nerve distribution, there was every reason to expect a good result.

Dr. Wyeth, in reply to a question by the last speaker, said that the wound which it had been necessary to make in order to effect union was from nine to ten inches long. The original injury had been done by a mowing-machine. He thought the main point to be made in all these operations was to cut away as much of the ends of the divided nerve as was found to be at all injured or abnormal, and to do this thoroughly until perfectly healthy nerve tissue was reached.

The President said that he could call to mind two cases of suturing of the ulnar nerve in which the operations for effecting union had been done at periods distant from the dates of the injuries. In one case the period had been six months and in another a much longer time. In neither of them had any benefit been derived. In one instance the operation had been undertaken for a second time, when it was found that the original separation had recurred. No return of sensation had followed the second attempt. He thought that in one case there had occurred some manifestations similar to those described by Dr. Wyeth. In the peripheral distribution of the nerves, symptoms of neuritis had developed. This condition he would regard as one of the dangers in operations of this character.

Dr. McBurney, referring to the case of trephining, asked why Dr. Wyeth had selected that particular point for applying the trephine. The speaker had been unable to detect any evidence of depression upon the button of bone handed around for inspection. While he did not wish to imply that the trephine should not be applied in such cases, it would not do to take even marked irregularities on the skull as evidences of fracture. So far as he could see, there certainly was nothing in the specimen which indicated fracture of the outer table.

Dr. Wyeth said he had no doubt whatever that there had been injury to the external table. The skull had been perfectly exposed, and appeared singularly free from irregularities of surface. The only irregularity was found exactly under the site of the scar on the scalp. It could not be accounted for as being the trough of a vessel, because no artery or vein of importance existed in the locality. It must be remembered, however, that the original injury had happened eight years ago. The scar upon the scalp was five inches long, but the point he had selected on the skull seemed the only one which justified the application of the trephine.

The President thought that Dr. Wyeth would have been justified in trephining along the whole line of cicatrized integument. Such an operation was perfectly harmless.

Referring to Dr. Wyeth's case of perityphlitic abscess communicating with the bladder, the President narrated the history of a case which had occurred in his practice many years ago and had been reported at the time. He was called upon by an experienced practitioner of Whitestone, Long Island, to operate in a case of supposed perityphlitis. He found a child, six or seven years of age, that had been very ill for about a week with symptoms regarded as significant of peritonitis, limited to the right iliac region. The patient was almost moribund, muttering incoherently, with the features pinched, the teeth and lips covered with sordes, the tongue dry and brown, and the pulse small, thready, and very rapid. The child was much emaciated and his abdomen was distended, this condition being most marked low down on the right side. Resonance was general except in the right iliac region and the right half of the hypogastric region. Attention was not drawn to the condition of the bladder. A curvilinear incision was made along and just above Poupart's ligament. After division of the abdominal muscles down to the peritonæum, no abscess being found, that membrane was raised from the iliac fossa until, in the vicinity of the brim of the pelvis, a cyst containing fluid bulged into the wound. It did not resemble the wall of an abscess, being bluish in color. It was opened without wounding the peritonæum, and turned out to be the bladder distended with urine. The child recovered entirely, but the strangest part of the history was that when the very free incision had contracted down to a mere fistulous tract the symptoms of retention recurred and the medical attendant found it necessary to enlarge and maintain the opening for some time. The patient ultimately recovered entirely.

The President then asked Dr. Wyeth what had been the condition of the involucrum in his case of reproduction of the clavicle.

Dr. Wyeth replied that it was well defined and had separated easily. No bony callus had existed in the periosteum, which had filled up very rapidly. It was important to get the full development of bone, and it was well to keep the periosteal mold wedged open with packing and to watch it closely. The most remarkable feature in the case he had presented was the reproduction of the joints with capsules, ligaments, and synovial membranes.

The President said that Macewen had argued that osteogenetic processes were principally manifested in bone cells and that the periosteum was only a conveyer of blood. Dr. Wyeth's case proved that these theories were not absolutely correct. The speaker had seen a case in which the epiphyses of the bone were not involved and in which the diaphysis was reproduced after removal.

Dr. McBurney said that quite a number of instances had been reported of serious trouble following the use of ether in the rectum. He had understood Dr. Wyeth to say that ether had been used by him in that way in thirty cases, and he failed to appreciate the necessity for it.

Dr. Wyeth said that he had used it chiefly in operations upon the tongue, for the removal of that organ, and in removing the jaw. The use of ether in the ordinary way prolonged these operations. The outcome of the case he had reported, though most deplorable, had been instructive. He had never before been afraid of ether so administered. He believed it to be the ideal method, and it was one that had been very serviceable to him, but he was now forced to the conviction that it was fraught with great danger and should be abandoned.

Dr. McBurney thought that there was another reason why rectal etherization should not be employed in the operations alluded to, and this was that it was often quite desirable to keep the patients partially conscious, or at least in such a condition as would allow of their becoming so. If the anæsthesia was produced through the rectum, it was impossible to know how profoundly the patient was etherized. He had no difficulty with ether or chloroform given by the mouth. Ether might be given first, and then very little chloroform at intervals would serve to keep the patient quiet, and there would be no risk of flooding the air-passages with blood.

The President recommended the method of preparing the patient for these operations involving the upper air-passages by the performance of tracheotomy a short time before the operation and then administering the anæsthetic through the artificial opening.

Dr. Wyeth thought that, by special attention to the posture of the patient, it was possible to readily avoid the dangers from blood in the air-passages.

Dr. A. G. Gerster thought that the posture method had its drawbacks, and was also ready to admit that the frequent interruptions necessary to keep up narcosis were extremely annoying to the surgeon. He fully indorsed the advantages of a preliminary tracheotomy, for then the operator felt entirely free to continue his work without reference to the possible condition of the patient. By this method he had never seen any complications arise, so far as the air-passages were concerned.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 6, 1890.

The President, Dr. Alfred L. Loomis, in the Chair.

The Epidemic of Influenza.—Dr. A. Jacobi said that every one would concur in the opinion that this year's catarrhal fever was of a peculiar character, and that it was pandemic in its extension. It was found that infants and old people were to a greater or less degree exempt from it, while those between the ages of fifteen and forty were much more susceptible to its ravages. Possibly the immunity of the young was due to the fact of their being less exposed to variations of weather. The symptoms of the recent influenza did not differ from those of like infectious diseases which had occurred during all ages. These were also of varied types, and differed in individual cases. Individual prevention of the disease consisted in protection against exposure; the skin should be fortified against the results of sudden changes of temperature. This could be done by frequent cold bathing. Catarrhal affections could be avoided by equable temperature of living-rooms and by warm clothing. If, however, influenza is a miasmatic disease only, then no caution would be protective. Quite a number of investigators believed influenza to be miasmatic in its origin, and some compared the contagious nature of influenza with that of typhoid fever. The speaker believed there could be no doubt as to the miasmatic origin in many well-authenticated instances, and that the disease had certainly been proved to be contagious.

In the interest of prevention it was thought that attempt at isolation of patients was justifiable. And, again, that the serious sequelæ or complications could not possibly be prevented nor the invasion of the epidemic completely avoided. The question as to whether the schools ought to be closed at such a time was a serious one, and, perhaps, the consideration that children did not suffer to the same degree with adults militated against the enforcement of such a measure. Though the influenza was a self-limited disease, it must be located. The discomfort it carried with it, the prostration it produced, the sequelæ which rendered its invasion a possible or probable danger, required relief. Treatment would not shorten the disease, but it might save the patient's strength and hasten convalescence. The patients must be kept in bed during the illness and part of the convalescence; whoever did not submit to this risked a relapse. The eyes and brain were rested by excluding bright light and noise. Muscular pain and fever could be soothed by diaphoretics, cough by opiates, intestinal stagnation by a single dose of calomel administered at once; copious secretion by belladonna. The beverages should not be iced and the food should be fluid. The great danger in the disease was prostration, exhaustion, and heart failure. Whenever the vomiting was severe, feeding by the mouth was an impropriety and rectal alimentation should be resorted to. Morphine would alleviate the vomiting. Very high temperature should be reduced by antipyrine and quinine. Suffocation with cyanosis had been relieved and time gained by the inhalation of oxygen. In heart failure subcutaneous cardiac stimulation offered the best results. Alcohol should not be relied on only. Sulphate of sparteine dissolved readily in water, and might be injected in doses of from half a grain to a grain every half-hour or hour, according to requirements. Salicylate of caffeine and sodium could be used for the same purpose. Camphor dissolved in five parts of oil of sweet almonds, when slowly injected, was painless and much more pleasant than the solution in alcohol or ether. The speaker thought that many patients could be saved by strict personal attention of the practitioner to the general indications.

Dr. W. H. Draper thought that the complications which arose during an epidemic of influenza might for the most part be regarded as an exaggerated expression or a more or less protracted persistence of the ordinary symptoms of the disease. They were therefore divisible into two principal varieties: First, those which were included in the sensory disorders, which resulted from the effect of the materies morbi, whatever that might be, upon the cerebro-spinal system. Secondly, those which illustrated the manifold and severe lesion which the disease determined in the mucous membranes. The complications, like the symptoms, were nervous or catarrhal, or both combined. It was common, in the beginning of an attack, to find great mental hebetude and a degree of muscular paresis which was extreme. The sensory disturbances were at first more or less generalized. These disorders were, as a rule, more persistent than the fever, and the prostration with neuralgias continued for a considerable period. One striking feature of the disease was its tendency to relapse, even in those cases which were carefully guarded against exposure, the relapse being frequently more severe than the original attack, during which time the most serious complications might arise. Another conspicuous feature of the disease had been the protracted duration of the prostration which had followed, even in cases of apparently mild degree. The catarrhal symptoms were characterized by more or less severe inflammatory processes in the respiratory and alimentary tract, and the nervous by varied functional and structural disturbances of the cerebro-spinal system. The complications of the catarrhal fever had presented themselves most frequently in the respiratory tract, from a simple inflammation of the upper air-passages to bronchitis and pneumonia. The complicating lesions in the gastro-intestinal tract had not, in the speaker's experience, been numerous, but they had occurred with sufficient frequency in this and previous epidemics of influenza to justify the belief that the disease might spread its force upon the alimentary canal without affecting the pulmonary system. The symptom which had been most common in connection with this variety of the disease had been pain, nausea, and constipation, rather than diarrhœa. The speaker had not observed any skin complications, as had been previously described, excepting excessive tenderness of the skin. The neuralgic complications were particularly interesting. They seemed to have for their basis a neuritis, which came on after the subsidence of the febrile and catarrhal symptoms and when the patients thought themselves convalescent. The pain was intermittent, like the neuralgia of malarial origin, but not with a similar periodicity. They had often been accompanied by exquisite tenderness along the course of the affected nerve, and they had been aggravated by movement, which indicated that the lesion which determined them was a perineuritis. That it was occasionally an interstitial, and possibly even in some cases a parenchymatous, neuritis seemed probable. The speaker had seen one case where there was paralysis of the extensors of the arm followed by considerable atrophy. A paretic condition of the limbs following brachial and sciatic neuralgias had been a common observation. The neuralgias originating from influenza had been confined to the distribution of large nerve-trunks, as branches of the brachial or sciatic plexuses or intercostal nerves of one side.

Dr. F. P. Kinnicut thought that a marked predominance of symptoms which must be referred to a more or less profound disturbance of the nervous system would be generally admitted as stamping the recent epidemic of influenza. Such symptoms had characterized not only the onset and the febrile stage of the disease, but had been prominent in its complications and sequelæ. Not a few cases which had fallen under the speaker's observation and which must be regarded as true instances of infection had been limited to such manifestations. They had consisted often of a slight feeling of dizziness at the onset, headache, occasional nausea, more or less pain in the back and limbs, accompanied with a feeling of prostration and mental depression, the attack running its course in twenty-four or forty-eight hours, and with the preservation of a normal temperature throughout. The rarer nervous phenomena which had been observed, both during the attack and as sequelæ, were of great interest. Obstinate and acute neuralgias had occurred as sequelæ in many cases. The speaker had seen two cases of peripheral neuritis of moderate severity, but not accompanied by atrophic symptoms. The mental depression which had been so prominent and common a manifestation led in many cases to suicidal impulses. Obstinate and painful cramps in the calf muscles were seen during convalescence, and several cases were seen in which the knee-jerk was absent. The speaker related briefly the history of the three following cases: Three children were attacked almost simultaneously with symptoms of influenza, fever being present in the older ones, with headache and moderate tracheal catarrh. In all, the onset was accompanied by a general convulsion. In one case only a single convulsion had occurred; broncho-pneumonia had developed subsequently, from which the patient was now suffering. In a second child the influenzal attack was of slight intensity and short duration, but general convulsions had occurred from time to time. In the third patient, an infant of eight months, convulsions had continued until death, with an absence of symptoms and physical signs other than those of a moderate bronchitis. Such varied disturbances of the nervous system occurred in few infectious diseases, and yet the speaker believed they must justly be regarded as having their origin in a specific infection. In conclusion, he desired to refer to certain features of the pneumonia which had prevailed so extensively during the epidemic. The two forms, broncho and primary lobar pneumonia, had occurred with nearly equal frequency. The diagnosis of primary lobar pneumonia was based upon the clinical course and physical signs of the disease, confirmed in a number of cases by autopsy. Many cases which were undoubtedly examples of broncho-pneumonia had presented the physical signs of an unusually extensive consolidation for this form. Not a few cases of apparent pneumonia which had rapidly terminated fatally were really examples of simple passive congestion, associated with feeble heart, either previously diseased or affected by the profound depression accompanying the influenzal attack. These observations pointed to the exceptional severity of the pulmonary affections accompanying the disease.

The question was then further spoken to by others, Dr. M. Allan Starr, Dr. Guitéras, and Dr. Bosworth dealing with the subject from the specialist's standpoint. The president touched upon the frequency with which cases of influenza had been noticed by him as complicated by bronchial disturbances.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PÆDIATRICS.

Meeting of February 13, 1890.

Dr. L. Emmett Holt in the Chair.

Sudden Death of a Child from Milk in the Upper Air-passages.—Dr. E. L. Partridge narrated the history of a case occurring in a child of four months of age which, while in the care of a wet-nurse, had suddenly died. The nurse had been seen to put the child in the crib and was noticed to have shaken or handled it impatiently on account of its crying. It had immediately ceased crying, and, when noticed half an hour later, it had turned blue in the face and was found to be dead. At the autopsy no lesion of the heart or other organs was found. At the back of the buccal cavity and in the œsophagus some fluid, semi-digested milk was found, and some of the same material in the trachea and air-passages. It seemed probable that death had resulted immediately from failure to swallow a quantity of fluid which was in the mouth, the child having just been nursed before it was put into the crib. Then there had been an element of shock occurring perhaps at the moment of inspiration, and death had taken place at once. Doubtless there were hundreds of thousands of babies undergoing the same treatment, and he did not know that the case was open to any practical deductions.

Dr. J. E. Winters considered wet-nursed children as very liable to get drugged—at least that had been his experience. He had been called in consultation in the case of a child of thirteen months old which had been wet-nursed. Upon the decision being made known to the nurse that her services would be no longer required, the child suddenly had been taken ill and she had been further retained. Upon investigation, a bottle of paregoric was found on the person of the nurse. After being closely interrogated, it was elicited from her that she had for months been giving the child paregoric systematically. It had been noticed as persistently constipated.

Dr. H. Koplik thought that as the œsophagus of the child, in Dr. Partridge's case, had contained fluid, pressure and rough handling might have squeezed some of the contents of the stomach out and the child have been thus choked.

The Chairman thought the death had been caused by the accumulation of milk in the larynx and trachea as low as the bifurcation. Dr. Koplik's suggestion was admissible, but the probability was that there had been unswallowed milk at the back of the child's mouth.

Reform in the Artificial Feeding of Infants.—Dr. A. Seibert described the method devised and now practiced by him, and with alleged marked success, in which the amount of food given to infants under his care was regulated as to quantity in direct proportion to the weight of the children. He also exhibited and explained the working and manifold advantages which he maintained for specially manufactured nursing bottles, prepared in sets and adjusted in point of size to the exact requirements of infants of given and known weights. These bottles were arranged in castors adapted for placing in an ordinary cooking utensil for the purpose of sterilizing the milk. [Dr. Seibert's plan was set forth in detail in a paper which will be found on page 172 of this Journal.]

The Question of Quantity in Infantile Feeding.—A paper with this title was read by Dr. J. Lewis Smith. He opened his remarks with a review of the usual methods of overfeeding adopted by mothers and wet-nurses in the care of infants, and which resulted in that condition of fretfulness and looseness of the bowels, with greenish stools, which was so often seen. This was no doubt brought about by the nursing of the infant too frequently, which produced indigestion and intestinal catarrh. Many of these cases had been cured by simply regulating the feeding to certain hours. To insufficient nutriment was due many of the cases of puny and ill-developed children. Again, many bottle-fed infants were allowed a sufficient amount of food, but it was not adapted to their age and was digested with difficulty, so that the nutriment derived from it was insufficient. It was bad practice to give an infant, under three months, farinaceous food, on account of the scantiness of the saliva at such an age. It was evident from this survey of what actually occurred in the feeding of infants that, while it was of the utmost importance that their food should be of the proper kind according to the age and properly prepared, it was also equally necessary for their successful alimentation that they be fed at proper intervals and with the proper amount of food. Dr. Seibert had devised a formula for infant feeding, based upon the differences in the weight of infants and not upon differences in their ages. The speaker was in doubt as to the correctness and propriety of this method. Was it a fact that the heaviest animals of a species uniformly required the most food? Was not the amount of food required determined to a considerable extent by the activity of the animal and the amount of molecular disintegration consequent on exercise? For example, take two infants of the same age. One might lead a sluggish life, being most of the time asleep. It had a superabundance of fat and weighed heavily. The other was more hours awake, and its limbs were more active. It probably weighed one or two pounds less than the other infant, as it had less fat and more frequent evacuations. Did not the latter infant require as much food as the former? A rhachitic child, with a big head and joints and pendulous abdomen, might weigh a pound more than a healthy child of the same age. Did he in consequence require more food? A large proportion of the infants remaining in the city either lost or did not gain in weight during the summer months. They weighed no more, and often less, at the close of September than in the beginning of June. Should we, then, give the same amount of food, or less, at the end of September, when their appetites began to return, than was allowed in the first of June, because they weighed the same or less? Infants that had had any sickness, except the mildest, lost in weight. Must we, then, diminish the quantity of food so that it would correspond with this loss of weight? In the New York tenement-houses a large proportion of the infants, even those without any marked ailment, weighed less than they should, on account of their improper feeding. Must we, under such circumstances, give them at each feeding an amount of food corresponding with their weight? The question of making a hard-and-fast rule for infant feeding was unscientific. It was necessary to regard other circumstances besides the weight. He thought the age was of importance. A few years ago, investigations had been conducted by Dr. Smith and others in the New York Infant Asylum and Foundling Asylum, in order to determine how much food children required at different ages. Those selected for observation were well nourished, and they were accurately weighed before and after each nursing or feeding. Of the eleven infants under the age of three weeks who took the breast twelve times in the twenty-four hours, 12·55 ounces was the average of milk taken during that period, with but three exceptions. According to these statistics, infants under the age of three weeks, nourished at the breast and suckled twelve times in the twenty-four hours, required only one ounce, or not more than one ounce and a drachm, at each feeding. After the third week the amount required for healthy nutrition gradually increased. It was found that infants between the ages of one and ten months received on the average 23·79 fluid-ounces of breast-milk in twenty-four hours. The number of nursings varied from seven to ten. Therefore these infants between the ages of one or, more accurately, two and ten months, if they took the breast eight times in the twenty-four hours, required three ounces at each nursing; if twelve times, two ounces each time. The same method of inquiry was conducted in private practice, from which the following conclusions were deducted: That all infants in good health and well nourished did not require or take the same amount of food. Some infants, like adults, needed more food than others.

Dr. Winters said that he could not but admire the elaborate and careful work which Dr. Seibert had done, but thought that some of his statements were open to criticism. It was not by any means the case that artificially fed children were always overfed. The assertion that even mothers were not to be trusted in this regard might apply to the majority, but was by no means the case with all mothers. The real difficulty lay in the fact that physicians were not sufficiently careful in giving detailed instructions. He did not think that weight in a child should determine the quantity of food it should get any more than it did in an adult. The amount of exercise varied in an infant as in a grown person. In the case of a baby three months old, reduced in weight by enteric trouble, no good result would be achieved by being guided by weight. It would work very well during the first few days, say until the subsidence of the active gastric intestinal catarrh, but after that the plan would fail in almost every instance. If a child after a protracted and reducing illness recovered and showed evidences of a clean stomach, with good pulse, was fed strictly and accurately by weight, it would not be brought back to health for a long time, and perhaps not at all; but if the appetite was taken as a guide, the child would regain its strength in a few weeks.

Dr. W. P. Northrup said that it had given him great pleasure to see the carefulness with which Dr. Seibert had gone to work to perfect an apparatus which was cheap and reliable and in every way adapted to the need of a certain section of the community, and thought that it must be admitted that he was endeavoring to formulate a rule which could be applied and carried out by intelligent people.. The speaker then pointed out what he considered to be defects in the method advocated by Dr. Seibert in the matter of sterilizing. He did not think that the milk was exposed to an unvarying high temperature for a sufficient length of time, and recommended that the now well-known form of steam sterilizer should be employed.

Dr. J. Dorning did not consider Dr. Seibert's method a practicable one. He would like to know how it was possible to regulate the milk-supply in the case of a child which nursed from the breast.

Dr. Seibert explained that he did not aim at any more perfect sterilization than would cover a period of twenty-four hours. He reiterated his statements and convictions, emphasizing the fact that children artificially fed were usually overfed.

The Chairman stated that a series of experiments had been made by himself with the special object of determining the relative stomach capacity of children under one year of age, which had led to the conclusion that there was a pretty steady growth in the size of the stomach during this period.

NEW YORK SURGICAL SOCIETY.

Meeting of February 12, 1890.

The President, Dr. C. K. Briddon, in the Chair.

The Surgical Treatment of Movable Kidney.—Dr. A. J. McCosh read a paper on this subject (see page 281).

The President said that he had been much impressed by the facility with which the kidney could be exposed in some cases and the difficulty which had attended its location in others. Personally he had never met with a case of movable kidney in the examination of a very large number of patients. He had certainly seen two cases which he had believed to be cases of floating kidney, but this was before any such operation as was then being considered had been spoken of. He had no idea until his attention had been called to the subject that the condition was associated with pain sufficient in some instances to disable patients from following their vocations. He had looked upon the cases rather as curiosities than anything else, but he now thought that there could be no mistake about the character of the pain and that the results of interference for its relief justified the procedure.

Dr. J. D. Bryant said that his experience of nephrorrhaphy was limited to a single case. The patient, a young man, had been operated upon a year ago. The plan had been to make an incision vertically down to the capsule of the kidney at the outer side of the quadratus lumborum. The capsule was found freely movable with the kidney. The capsule was then opened and its edges were pulled outward, as it were, to take up the slack which had resulted from the stretching of the capsule. An assistant at the same time pressed upon the abdominal wall, pushing the kidney into the opening made in the loin. Then, as soon as the capsule was made tense, the superfluous portion of it was clipped off and its borders were sewed to the borders of the wound in the loin with silk sutures carried entirely through the borders of the opening in the loin. At the same time the kidney was pushed downward sufficiently to avoid the full force of the diaphragm during respiration. He had not passed any suture through the kidney permanently, as the one passed had torn out and the procedure was not repeated. The patient had done well, the wound having entirely healed in three weeks. Before packing the wound, some retention sutures were passed through its borders and drawn sufficiently tight to make its base of about half the length of the kidney, also about half an inch in width. The wound had healed readily. It should be remembered that the main object of this operation was the relief of the violent attacks of pain to which the patient was subject. The speaker had lately seen the patient and had found the kidney still in position. Attacks of pain had occurred again, the first one about six weeks after the operation, although not of a severe character. The patient was under the care of Dr. Janeway, who had informed the speaker that attacks of pain still recurred, though not at such frequent intervals as before. It seemed quite evident that, although the kidney had been anchored, the cause of the pain was not removed. What its cause was he did not know. He had been pleased to hear the author of the paper state that the passing of sutures through the kidney gave so little trouble; still, he thought that if he was called upon to treat another case, and the conditions would permit, he would draw out the capsule of the kidney, trim off the superfluous portions of it, sew it as before, and hold it in position until it healed by granulation.

Replying to Dr. Stimson, the speaker said that the attacks had been characterized by a sensation of weight in the region of the kidney, tension, and distension, followed by nausea and not infrequently by vomiting. The parts over the kidney were always tympanitic. It had been thought that there might exist some constriction of the colon, and so it was cut down upon. Some narrowing bands were found, but even after this source of pressure had been removed the attacks had persisted.

Dr. J. A. Wyeth thought that the author of the paper had established beyond controversy the fact that stitching the kidney when that organ was movable was preferable to removing it. The recognition of the condition had not been, in the speaker's experience, so very easy as he inferred it had been in Dr. McCosh's case. Within a year and a half he had been called to see two cases in which there was a perfect history of displacement of the kidney with all the phenomena enumerated by the author of the paper. Around the kidney in one case some tumefaction was evident. The spasmodic element of tumefaction existed, giving rise to suspicion that it was due to some cause other than the kidney. He had not concurred in the opinion that it was a case of displaced kidney, but had suggested exploration. The kidney was found in the normal position, but a tumor existed involving about half the ileum and ascending colon. On opening the abdomen, it was found that the entire gut was thrown into a spasm and formed itself into a hard knot, exactly like the body which had been felt as a tumor. This condition had occurred while the patient was still under an anæsthetic. It was difficult beforehand to say whether the tumor was one of the kidney or of the intestinal wall. In another case, in which the patient had been operated upon for ovarian tumor, and in which there had been no history whatever indicating kidney trouble, the kidney was found in the pelvis behind the peritonæum. The operator, thinking that he was enucleating a tumor, had so damaged the organ that it had to be removed. As a point in the technique of the operation on the kidney, the speaker would suggest that catgut prepared in chromic acid would last longer and secure fixation until adhesion took place.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN SURGERY.

Meeting of January 17, 1890.

The President, Dr. Meldon, in the Chair.

The High Operation for Encysted Calculus.—Mr. M'Ardle read a paper on the high operation for encysted calculus.

Mr. Barton said the position of the stone as described, encysted immediately behind the prostate, was decidedly rare, and presented difficulties in diagnosis as well as need for most careful consideration of the means of reaching it. He agreed in the conclusion arrived at by Mr. M'Ardle, that the suprapubic operation was the one most likely to lead to a favorable result. Some few months ago he had had to deal with a somewhat similar case himself—that of a patient, aged sixty-eight, from whom he had removed a calculus eight years previously by lithotrity. The man enjoyed good health till about six months ago, when he complained of acute inflammation of the bladder. On examination three months later, the bladder was in a fairly good state; but micturition was frequent, the bladder containing only three to four ounces of urine, and there was a copious discharge of muco-pus. His diagnosis was that he had to deal with a prostatic calculus impacted in the prostate, and also with a loose calculus in the bladder. It was impossible to reach the position of the prostatic calculus from above, and he decided against the suprapubic operation, whereas perineal section in the median line, without the risk of lateral lithotomy being involved, was feasible, as opening a way to introduce a lithotrite into the bladder. Thus about half the stone was removed, the fatigue of the lengthened exposure making the complete removal of the *débris* undesirable for the time being. The case went on favorably for three weeks, when the man succumbed from abscess in the kidney. The same purulent discharge continued after the operation as had existed before it, in spite of repeated washing, so that the mucous membrane could not be said to furnish the pus.

Dr. Cox, having been consulted by Mr. M'Ardle upon the medical aspect of the case before operating, because of the presence of a large quantity of albumin in the urine, said his opinion was that this condition was the result not of disintegration of the kidneys or of disease, but of reflex irritation from a hard stone irritating the mucous membrane, and in like manner he accounted for every third or fourth beat of the heart being intermittent.

Mr. Kendal Franks said that, according to the authorities, in cases of large calculi the suprapubic operation should be preferred to the perineal as the simpler and more successful. As regarded suture, where the bladder was diseased and the urine decomposing, with every prospect of septic matter reaching the wound, he believed the consensus of opinion was that the suture should not be adopted; but in cases of healthy bladders, where the urine was healthy, the suture should be tried. There was no danger from suture in healthy bladders, while the period of recovery was shortened from twenty-one to seven or ten days.

Mr. Myles said that, being an admirer of simplicity, he agreed that the suprapubic incision presented to the average surgeon, ignorant of anatomy, easier access to the bladder and safer exit than the incision through the perinæum; but in the hands of a competent lithotomist he doubted if the result would be better than through the perinæum. It was desirable to distinguish—which had not been done—the cases suitable for the suprapubic and those for the perineal operation. He had himself operated on a man suffering from obstinate perineal fistula in addition to bladder irritation. The bladder was shrunk to the size of a walnut and empty by reason of incontinence of urine. Every attempt to distend the bladder failed, and the incision had to be made on a contracted bladder. Several feet of the intestines came out without harm. The bladder was rotten and collapsed behind the pubes. However, the stone was successfully removed. That operation was the suprapubic; but he would not in a similar case do it again. Suprapubic section was useful to those ignorant of anatomy, and was not to be compared with the operation through the perinæum by a skillful surgeon.

Surgeon-Major O'Farrell, having examined the patient operated on by Mr. M'Ardle, said it would have been a most difficult process to extract the stone by a median perineal section. He would be for using blunt-pointed scissors instead of the hernia-knife, as insuring a clean cut and certainty of where the cutting edge was engaged.

Mr. M'Ardle said that his reason for adopting the suprapubic method had been the difficulty which he had experienced on two former occasions in removing an encysted calculus by the perinæum; and in the case under notice, to get at the calculus, he would have been obliged to cut through the prostate into the cellular tissue and through the posterior wall of the bladder behind the trigone. In his case, as in Mr. Barton's, a calculus had been removed six months before the operation. If a spiculum of calculus stood out through the mucous membrane, it would form a nucleus for stone to gather round it. Mr. Franks had noticed that for large stones the suprapubic method was the most desirable. It was by that operation that Schwurtz had extracted a stone weighing eighteen ounces two drachms, and it would be hard to understand how such a stone could be got out in three minutes through the perinæum. Where there was a tendency to softening, continuous suture, adverted to by Mr. Franks, was dangerous as involving urinary infiltration, or, unless the drainage was complete, if the urine passed through the vesical wound, pelvic cellulitis would result. In reference to the time and difference between the effect of suture and non-suture, healing took place in from twenty-one to ninety days, the average being forty-seven days without suture, whereas with suture the average time for healing was only eight days. As regarded the case detailed by Mr. Myles, he thought it would have been best to leave the rotten bladder alone. In reference to Surgeon-Major O'Farrell's remark as to blunt scissors, he approved of curved scissors with a blunt and narrow blade, as useful in opening into the sac.

Book Notices.

The Principles and Practice of Surgery. By John Ashhurst, Jr., M. D., Professor of Surgery and of Clinical Surgery in the University of Pennsylvania; Surgeon to the Pennsylvania Hospital, etc. Fifth Edition, enlarged and thoroughly revised. With Six Hundred and Forty-two Illustrations. Philadelphia: Lea Brothers & Co., 1889. Pp. xxviii–33 to 1148. [Price, $6.]

When a standard work on surgery of such unquestionable and recognized merit as that by Ashhurst appears in its fifth edition, any points in review can be safely left to an examination of the thoroughness of the work done by its most recent reviser. We who follow with care the kaleidoscopic changes, most of them in the line of undoubted improvement, made from month to month in surgery, know how difficult it is for an author to make even an appearance of keeping abreast of these changes in his descriptions of the technique of surgical procedures. So far as this is possible, the book under consideration has been ably handled. Careful comparison shows this last edition to contain a large amount of newly added and essential matter. While in these days any one-volume work on such a subject must of necessity be compendious, the author has every reason to feel assured that the hope expressed in his preface, that this issue might be recognized as a satisfactory representation of modern surgery, has been ably sustained. The bibliographical references, which are elaborately interspersed, are interesting and valuable and evince the scholarly research of the author. While all the illustrations are pertinent to the subject-matter, they are not all of pronounced artistic merit. Time works wonders, but seems powerless to change the cut of other days.

The Principles and Practice of Surgery, being a Treatise on Surgical Diseases and Injuries. By D. Hayes Agnew, M. D., LL. D., Professor of Surgery in the Medical Department of the University of Pennsylvania. Profusely illustrated. Second Edition. Thoroughly revised, with Additions. In Three Volumes. Vol. I, pp. 23–25 to 1114. Vol. II, pp. 16–17 to 1066. Vol. III, pp. 15–17 to 785. Philadelphia: J. B. Lippincott Company, 1890.

This elaborate and admirable text-book has just been issued in its second edition. The author has unquestionably been fully alive to the phenomenal vitality pervading the domain of his subject, and seems to have embodied in this recent effort all the major points acceptable as worthy of the surgeon's confidence up to the date of issue. He accepts as a creed the parasitic theory of disease, and the tenor of the suggestions in practice is in harmony with this belief. The doctrine of the presence of micro-organisms as the pervading *materies morbi*, responsible for inflammatory processes, receives due and thorough consideration, the author frankly stating his belief in the value of germicidal agents. To the acceptance, throughout the surgical world, of these broad principles in theory and practice he attributes the more recent and splendid achievements in the surgery of the pelvis, abdomen, and brain. Such a work, by a writer whose ripe experience is unstunted by prejudice and who is fully *en rapport* with the evolution of modern surgery, must find high rank among the deservedly pretentious treatises on this subject. The work is amply and suitably illustrated.

Hygiene and Public Health. By Louis C. Parkes, M. D., D. P. H. Lond. Univ., Fellow of the Sanitary Institute and Member of the Board of Examiners, etc. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. xvi–471. [Price, $2.50.]

This work actually fills a desideratum in the literature of hygiene, for there is no other text-book that is quite in accord with the recent information that bacteriology has afforded the student of hygiene. The work must not be confounded with that of the late Dr. E. C. Parkes, that has long occupied a prominent position in the literature of this subject.

In the chapter on water, the sources, purification, and examination are thoroughly considered. The author does not consider the biological test as of value except confirmatively; this experience does not accord with that of American bacteriologists.

The chapters on excreta and their disposal, air and ventilation, warming and lighting, climate and meteorology, soils, foods, and exercise, are well written and embrace references to the latest discoveries. Possibly, in the chapter on food, it would have been desirable to condemn the use of meat from animals suffering from pleuro-pneumonia, rinderpest, etc., rather than state that the evidence of a bad effect from its use was conflicting. And discoveries made since the publication of the book seem to justify the condemnation of milk from tuberculous cows with healthy udders.

The chapters on contagia and statistics are especially noteworthy—the former on account of its comprehensive review of the causation of communicable diseases, and the latter for the excellent presentation of a subject that should be familiar to every graduate in medicine.

The book will be found well worth perusal by any one that is not familiar with the more recent advances in hygiene.

A Contribution to the Surgery of the Spinal Cord. By William Thorburn, B. S., B. Sc., M. D. (Lond.), Fellow of the Royal College of Surgeons of England, etc. With Diagrams, Illustrations, and Tables. Philadelphia: Blakiston, Son, & Co., 1889. Pp. vii–230. [Price, $4.50.]

While this does not purport to be a systematic treatise, or even an exhaustive monograph, it contains most of what is at present known about the subject and is an admirable work. It is a record of clinical observations, with many references to the experience of others. The author gives first a brief outline of the physiological observations upon the functions of the different spinal nerves of the special regions considered, and then cites cases which show the effect of injury to these nerves. Each region of the spine is thus considered, and the remarks upon the bearings of each case are apposite and useful.

In most injuries of the spinal cord it is crushed to such an extent that an operation is not justifiable, except in the case of the cauda equina. But where the cord is irritated by the depression of a lamina or arch, operative interference is indicated. This is true in cases of pressure from other causes, such as tumors. In caries of the vertebræ, causing paralysis, there is much chance of doing good by the removal of indurated tissue. The author has noticed in a certain number of cases of injury of the upper portion of the spinal cord not associated with inflammation of the base of the brain certain ophthalmoscopic changes, chiefly a haziness of the disc, with slight distension of the retinal veins. This may be a temporary condition, as it appeared to be in one case. The last chapter is devoted to "traumatic hysteria" or "railway spine."

Altogether we consider this work excellent, and commend it to any practitioner who may be interested in the surgery of the spinal cord.

Anæsthetics, Ancient and Modern; their Physiological Action, Therapeutic Use, and Mode of Administration; together with an Historical Résumé of the Introduction of Modern Anæsthetics—Nitrous Oxide, Ether, Chloroform, and Cocaine; and also an Account of the More Celebrated Anæsthetics in Use from the Earliest Time to the Discovery of Nitrous Oxide. By George Foy, F. R. C. S., Fellow of the Royal Academy of Medicine in Ireland, etc. London: Ballière, Tindall, and Cox, 1889. Pp. 7–9 to 175.

The author treats of his subject in a very happy style. Whether the reader is interested in medical archæology or not, he will pass a very pleasant hour in the perusal of this work and in tracing the evolution of modern anæsthetics from those of ancient times. But, aside from its archæological interest, it is valuable on account of the practical nature of its instructions regarding the choice and administration of an anæsthetic. While perhaps nothing new or original is brought forward, most of our knowledge at the present time regarding these drugs may be found here. One chapter devoted to general rules for the administration of anæsthetics and the treatment of resulting narcosis is particularly valuable. The work shows the traces of much labor, and is to be recommended to any one who is likely to be called upon to administer any of the anæsthetics treated of.

Zwölf Vorlesungen über den Bau der nervösen Centralorgane. Für Aerzte und Studirende. Von Dr. Ludwig Edinger, Arzt in Frankfurt am Main. Zweite umgearbeitete Auflage. Mit 133 Abbildungen. Leipzig: F. C. W. Vogel, 1889. Pp. viii–164. [Preis, 6 Mark.]

This book is one of the best in existence upon the anatomy of the brain and spinal cord. We are glad to welcome this new edition. The volume has been increased in size by additions to the text and thirty-two new illustrations, improvements rendered necessary by the discoveries continually made concerning an organ so intricate and mysterious. It is a pleasure to be able to announce that an English translation is now being made by two American physicians, and that the book will soon be placed in the hands of the profession.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars. For the Year 1888.

This report contains, besides the usual statistical tables, an interesting analysis of the cases of cancer that have been treated in the institution during the past seven years. This analysis constitutes the major portion of the volume. The subject is considered under the head of the locality affected, and with reference to sex, duration of life, previous health, family history, etc. The most frequent site was found to be, as usual, the breast, then the uterus, tongue and mouth, rectum, lip, and external genitalia, other localities being affected with lesser frequency. These tables will afford valuable information to any one making a special study of cancer.

Reports of some interesting cases by the Medical Registrar complete the volume, and the thought is suggested that, if our American institutions would add such papers to their annual reports, the value of the latter would be enhanced.

A Compend of Human Physiology. Especially adapted for the Use of Medical Students. By Albert P. Brubaker, A. M., M. D., Demonstrator of Physiology in the Jefferson Medical College, etc. Fifth Edition, revised and enlarged. With New Illustrations and a Table of Physiological Constants. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. viii–9 to 188. [Quiz Compends.]

Many sections in this edition have been revised and rewritten. The author is especially to be congratulated on his successful treatment of the chapter on the nervous system. The diagrams showing the motor areas of the brain and the course, through the spinal cord, of the motor and sensory nerve fibers are of good help to the student. With all the additions, the compend remains compact and is conveniently arranged for the study of the fundamental facts of human physiology.

BOOKS AND PAMPHLETS RECEIVED.

Asthma, considered specially in Relation to Nasal Disease. By E. Schmiegelow, M. D., Consulting Physician in Laryngology to the Municipal Hospital, and Director of the Otolaryngological Department in the Polyclinic at Copenhagen. London: H. K. Lewis, 1890. Pp. 90.

The Pharmacopœia of the London Skin Hospital. Edited by James Startin, Senior Surgeon to the Hospital. London: Harrison & Sons. Pp. 23.

Transactions of the American Association of Obstetricians and Gynæcologists. Vol. II. For the Year 1889. Philadelphia: W. J. Dornan, 1889. Pp. xxxviii–397.

A Treatise on Fractures. By Professor Armand Després, Surgeon of Charity Hospital, etc. Translated by E. P. Hurd, M. D., Member of the Massachusetts Medical Society, etc. Detroit: George S. Davis, 1890. Pp. 112. [Price, 25 cents.] [The Physicians' Leisure Library.]

A Failure in Brain Surgery. By Hal C. Wyman, M. D., Detroit. [Reprinted from the Medical News.]

The Demilt Dispensary in the City of New York. Thirty-ninth Annual Report, etc. For the Year 1889.

Christian Scientism. By D. B. St. John Roosa, M. D., LL. D. [Reprinted from Christian Thought.]

The American Society for the Prevention of Cruelty to Animals. Thirty-fourth Annual Report for 1889.

Accidents, Complications, and Results following Internal Urethrotomy upon One Hundred and Twenty Cases of Stricture. By George E. Brewer, M. D., New York. [Reprinted from the International Journal of Surgery.]

Professional Atmosphere and Morals; or, Patents and Secrets *vs.* Liberal Profession. (Address delivered before the New York Odontological Society, March 19, 1889, at the New York Academy of Medicine.) By Horatio C. Meriam, D. M. D. [Reprinted from the Dental Cosmos.]

Seventh Annual Report of the Philadelphia Polyclinic and College for Graduates in Medicine. Embracing the Polyclinic Hospital, the College Department, and the Second Annual Report of the Ladies' Aid Society of the Polyclinic Hospital, 1890.

First Annual Report of the Babies' Hospital of the City of New York.

Miscellany.

The American Medical Association will hold its forty-first annual meeting in Nashville, Tenn., on Tuesday, Wednesday, Thursday, and Friday, May 20th, 21st, 22d, and 23d. The addresses announced are as follows: In general medicine, by Dr. N. S. Davis, of Chicago; in general surgery, by Dr. Samuel Logan, of New Orleans; in State medicine, by Dr. Alfred L. Carroll, of New York.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending March 7th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Mar. 1.	1,602,731	730	..	..	..	..	..	..	6	8	25	10	6
Chicago, Ill.	Mar. 1.	1,100,000	441	..	..	..	..	..	..	32	2	17	..	6
Philadelphia, Pa.	Feb. 22.	1,064,277	370	..	..	..	..	..	..	10	2	9	1	5
Brooklyn, N. Y.	Mar. 1.	852,467	360	..	..	..	..	..	..	1	4	17	2	2
Baltimore, Md.	Mar. 1.	500,343	221	..	..	..	..	..	..	2	2	6	18	1
Boston, Mass.	Mar. 1.	420,000	185	..	..	..	..	..	..	..	2	7	..	1
San Francisco, Cal.	Feb. 21.	330,000	120	..	..	..	..	..	..	1	..	2	..	1
Cincinnati, Ohio.	Mar. 1.	325,000	124	..	..	..	..	..	..	1	..	13	1	3
New Orleans, La.	Feb. 22.	254,000	146	..	..	..	..	..	..	1	..	2	..	....
Washington, D. C.	Feb. 22.	250,000	104	..	..	..	..	..	..	2	..	2	1	1
Washington, D. C.	Mar. 1.	250,000	83	..	..	..	..	..	..	..	..	..	..	....
Detroit, Mich.	Feb. 22.	250,000	61	..	..	..	..	..	..	..	1	4	..	....
Cleveland, Ohio	Feb. 8.	240,310	110	..	..	..	..	..	..	2	2	7	3	1
Cleveland, Ohio	Feb. 15.	240,310	97	..	..	..	..	..	..	1	..	8	3	1
Milwaukee, Wis.	Mar. 1.	210,000	54	..	..	..	..	..	..	1	1	3	..	....
Minneapolis, Minn.	Mar. 1.	200,000	35	..	..	..	..	..	..	..	..	..	2	....
Newark, N. J.	Mar. 1.	194,500	106	..	..	..	..	..	..	7	..	5	3	....
Denver, Col.	Feb. 28.	150,000	40	..	..	..	..	..	..	..	..	4	..	....
Providence, R. I.	Mar. 1.	130,000	48	..	..	..	..	..	..	..	1	..	1	....
Indianapolis, Ind.	Feb. 28.	129,346	26	..	..	..	..	..	..	..	..	2	..	....
Richmond, Va.	Mar. 1.	100,000	41	..	..	..	..	..	..	2	..	..	..	2
Toledo, Ohio	Feb. 28.	92,000	24	..	..	..	..	..	..	..	..	2	..	....
Fall River, Mass.	Mar. 1.	69,000	28	..	..	..	..	..	..	..	..	..	1	1
Nashville, Tenn	Mar. 1.	68,531	22	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Feb. 22.	60,145	28	..	..	..	..	..	..	1	..	..	..	....
Charleston, S. C.	Mar. 1.	60,145	32	..	..	..	..	..	..	2	..	..	..	...
Manchester, N. H.	Mar. 1.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.	Mar. 1.	42,000	13	..	..	..	..	..	..	..	..	..	..	3
Galveston, Texas	Feb. 21.	40,000	11	..	..	..	..	..	..	2	..	..	..	....
Council Bluffs, Iowa.	Feb. 23.	35,000	8	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	Feb. 19.	32,000	6	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	Feb. 26.	32,000	4	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	Feb. 28.	31,000	5	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	Mar. 1.	30,000	8	..	..	..	..	..	..	..	..	..	..	....
Canton, Ohio	Feb. 28.	30,000	5	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Feb. 22.	30,000	6	..	..	..	..	..	..	..	1	..	..	....
Auburn, N. Y.	Mar. 1.	26,000	12	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Feb. 20.	23,000	9	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Feb. 27.	23,000	9	..	..	..	..	..	..	..	..	..	..	....
Keokuk, Iowa.	Feb. 22.	16,000	2	..	..	..	..	..	..	..	..	..	..	....
Keokuk, Iowa.	Mar. 1.	16,000	5	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Feb. 23.	16,000	7	..	..	..	..	..	..	..	..	1	..	....
Rock Island, Ill.	Mar. 2.	16,000	3	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Feb. 22.	15,000	3	..	..	..	..	..	..	..	..	1	..	....

Senile Articular Changes in Joints and Rheumatoid Arthritis.—Dr. Kasanli has published an account of some microscopical observations he has made on the morbid changes of the various structures of the knee joint which accompany old age, with the view of comparing these changes with those occurring in rheumatoid arthritis or arthritis deformans, as this affection is frequently called on the Continent. The morbid changes found in the synovial membrane were most marked in the adventitia, and consisted in hyperplasia of the cellular elements and the development of connective tissue in the adventitia, together with thickening of the walls of the capillaries lying beneath the intima synovialis, also in a varicose enlargement of the capillaries, in separation of adipose tissue in the synovial membrane, and in splitting of the adventitia into fibers. In the cartilages the cellular elements were found to be undergoing fatty degeneration, and the interstitial substance to have broken up into fibers, and to have become infiltrated with certain saline matters. In the spongy portion of the epiphysis of the femur the trabeculæ had become very thin, and cavities had been formed by the absorption of the osseous substance of lamellæ, into which the bone near the cartilaginous covering had split up. In the medulla of the bone there was a marked deficiency of medullary elements, the small vessels were affected by a varicose enlargement, and their walls were thickened. These changes, which occur normally in the knee joint in old persons, are, according to Dr. Kasanli, very similar to those found in rheumatoid arthritis.—*Lancet.*

ANSWERS TO CORRESPONDENTS.

No. 310.—The American Journal of the Medical Sciences for November, 1889.

No. 311.—There is no such reciprocity as you speak of. To the best of our knowledge, an American diploma is of no value in England, except as evidence of a certain time spent in study.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

IS THE CURE OF CHRONIC NASAL CATARRH AS DIFFICULT AS HAS BEEN SUPPOSED?*

By O. B. DOUGLAS, M.D.,

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PROFESSOR OF DISEASES OF THE NOSE AND THROAT IN
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In these years of wonderful progress in all science and art, medicine, we believe, has kept well abreast. A struggle for better methods and higher attainments has developed a class of robust investigators in every department. The relationship of cause and effect is studied, influences remote and obscure are weighed, and the question, What has produced this result? is being asked with increasing frequency, and is answered with much greater exactness. The boundary of our knowledge is extending, and the hitherto unknown is explored and added to our possessions. Light comes out of darkness from new stars in the firmament of our science. This crusade against ignorance calls out all reserves; we are enlisted and expected to do our duty. The little which any one can do is supplemented grandly by the much all may do.

This thought has encouraged me in attempting to discuss the question before us, the cure of chronic nasal catarrh.

In this word "catarrh" I would include all that is commonly understood by it—a flowing down, as the original means, its causes and effects. In the evolution of modern refinement various terms have been proposed to express this condition—all more or less excellent—but the condition and not its names I would consider at present.

If a wish could procreate a fact, we would have but a single answer to our question. All will agree, I think, that few physical ailments in the long list of human ills have, immediately and remotely, so troubled the patient and his physician as the one under consideration. Its frequency, its persistency, its universality, its distressing and evil effects, direct and reflex, its antiquity and its modern antics, Russian influenza or French "grippe," should make its study deeply interesting and profitable at the present time.

But, if these were the only reasons for its consideration, I might give place to others, who could tell us of many occasions of suffering they could relieve and causes of death which might be averted. But when I meet at every turn in the highway flaming laudations of marvelous "catarrh cures," and realize that charlatans are reaping good grain in fields given us to garner; that this opprobrium is advertised in daily papers and flaunted in our faces on the street and in our homes, while we sit silent, tacitly confessing our impotency, I am humiliated, and can do no less than sound the tocsin and urge you, gentlemen, to diligently study this subject. All that can be done should be to protect our fair fame, to relieve those who suffer, and to divert the golden current to legitimate channels.

Perhaps we have not wholly divested ourselves of a popular notion that the nose is a somewhat useless appendage to the human physiognomy, or, at most, of no great use. It may be convenient to breathe through; an index of character; essential, possibly, for olfaction.

Contrast the Creator's estimate of its importance, and we may draw this picture without irreverence:

Nature sat contemplating her completed first clay model of the coming man. She fashioned it from the feet upward, placing at the junction of its double support the important organs of reproduction. She built better as she advanced and formed more important parts, giving to the heart and lungs vital power. She made the arms and hands superior to the lower limbs, carved the shoulders and neck in graceful outline, and came to the crowning portion of her model work. The head she set grandly above all else, wove, with infinite skill, the intricate parts of the brain, and concentrated here, with consummate wisdom, the network of nerves which ran throughout all her creation. She constructed the ears for music, soul charming; the eyes for beauty and light of the soul; the lips for sweetness, satisfying love; the tongue for power, untamable. Last of all—the consummation of beauty and sweetness, charm and power, the finishing stroke of the mighty artist, the last lingering, loving touch of infinite wisdom and skill—she placed the nose centrally and connecting all, pronounced it "good," and breathed into its nostrils the breath of life. "And man became a living soul."

This is not simply a fancy. Science confirms revelation in giving to the nose great importance. Consider its marvelous mechanism, study its anatomy and physiology, its adaptation to its functions, in its framework, composed of bones and cartilages—not of bone alone, which would be more seriously injured if broken, but the part most exposed of numerous cartilages, which allow motion and yield to pressure. Interiorly note its reduplicate, turbinate structure, its vascular and accessory sinuses, its glands and exudative surfaces. It holds an important relation with eyes and ears, with maxillary, frontal, ethmoidal, and sphenoidal sinuses. How delicate its olfactory functions, more sensitive than any other of our special senses, and perhaps affording us greater pleasure, its phonetic power giving quality and quantity to musical sounds and infinite variety to the human voice!

The physiology of the nose is not understood by large numbers of our profession. We can hardly more than glance at it here, but it is interesting and worthy of study. Dr. Greville Macdonald, of London, has recently given us results of some careful experiments. He has demonstrated that the nose is the natural and most efficient respirator; that, however cold or hot the atmospheric temperature, the air is brought almost, if not quite, to the temperature of the blood on passing through the nose alone, and before reaching the pharynx; that, however dry the external air may be, it is completely saturated with moisture on passing through the nose. Instead of moisture being supplied by and carried from the pulmonary tissues, it is carried there from the nose, and may be deposited as a dew upon the bronchial mucous membrane. That gaseous exchanges take place in the nose, between the gases of the blood and those of the air, just as in the lungs. That nearly one fiftieth of the exhaled carbonic acid is given off by the nasal mucous membrane, even when expiration is not performed through the nose. Some of these facts have, of course, been long known and taught. He confirmed them.

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* Read before the Medical Society of the County of New York, December 23, 1889.

What other organs of the human body have such numerous and important functions as the nose and throat? What other parts are subject to such changes, injuries, and abuses, are so often diseased, and neglected or maltreated, cause such suffering and lead to such serious trouble? Conjunctival and aural catarrhs, asthmas, neuralgias, pulmonary, stomach, and heart troubles result from their neglect, besides their own hypertrophies and inflammations.

The mythological Sphinx, appointing herself quiz-mistress to those who would approach Thebes from Bœotia, propounded the riddle, "What is that which goes on four feet in the morning, on two at noon, and on three in the evening?" All who could not guess it were destroyed. But Œdipus answered: "Man, who creeps in infancy, walks in manhood, and uses a staff in old age." The answer destroyed the quizzer, and gave Œdipus to his mother for a husband, as had been foretold. But the relationship being discovered by them, Jocasta hung herself, Œdipus became a maniac, left his throne and kingdom, tore out his eyes, ending his days as a tramp, and entailed no end of trouble on his descendants.

If the Sphinx had asked, What organ in the human body has eight definite functions, is exposed to sixteen different dangers, and has twice that number of distinct diseases, which has never a rest, and, if disabled, like Samson of old pulls down destruction upon itself and all its fellows? who would have guessed the riddle? And who can wonder that an organ of such complexity should sometimes break down under a burden no other part of the human body is asked to bear?

What are the facts as we find them? Baby-life begins its ills with "snuffles" and "takes cold" before it is a fortnight old. Goose-grease is applied externally, castor-oil internally, baby is rolled up in an extra blanket, and the nurse has done, in her judgment, "all she could for the poor thing." The inevitable is unavoidable, she pleads. But was it unavoidable? It may have been preventable. So delicate a thing as a human infant should be kept in an atmosphere of uniform temperature and carefully shielded from draughts. A chill, unregistered by the thermometer, would give baby a cold.

This leads us to ask, What is a cold? What is its pathology? We recognize a cold as the beginning of that condition which later may become a chronic catarrh. By what processes are such results brought about? Various theories have been advanced, each, perhaps, assailable, yet all give light. I gather this as near the truth. The heart in its action sends out a definite quantity of blood at each pulsation. This is distributed in beautiful exactness to the various waiting vessels and carried to all parts of the body. At some point the capillaries refuse to take their portion. Cold may have constricted their caliber, and this overplus of blood has to be disposed of. Provision was made for this emergency when the erectile tissue of the turbinated bodies was formed. This receives the surplus, relieves the embarrassed capillaries, but is itself overdistended. Speedy relief must be sought. Sensitive nerves are pressed upon by the swollen Schneiderian membrane, the signal of danger is sounded by a sneeze, and we say they are taking cold. Serum exudes from the distended cavernous tissue, swelling subsides, and restoration succeeds. Or, the congested tissues remaining engorged, suppuration follows, as in other parts. This is not the whole of the process. Other factors work together with this, but the nose is the mediator and adjudicator of differences in the circulation, balancing the blood pressure, acting as a safety valve to a steam boiler, and sounding a danger signal when distant organs are not receiving their allowance of the circulating medium.

I come with no new and wonderful cure for catarrh. I have no new methods, medicines, or instruments to offer you without which you can not succeed in curing your patient. Electricity in its various methods of use may be a convenience; chromic acid (or, what I prefer, the monochloracetic acid) is sometimes excellent; the nasal saw, the trephine, the forceps, are at times essential. But the surgeon must be greater than his instruments, and his skill more than medicine.

I believe there is one reason for failure in curing this condition, and I know of but one: it is a failure to remove the cause. That which is commonly understood as catarrh is not the disease; it is but the result of disease. Herein lies the key to success. Trace to its origin whatever inflammation you discover in the larynx, pharynx, fauces, or above, back through various stages and numerous ways; follow the working of a primal cause. There can be no effect that had not a cause, though it be ever so obscure.

Laryngitis, pharyngitis, amygdalitis, and faucitis; hypertrophy of the tonsils, of tongue, fauces, and pharynx; enlarged turbinated bodies posteriorly; inferior turbinates anterior and median; asthmas, neuralgias, aphonia, cough, gastric catarrh, ozæna, conjunctivitis, otitis media, and deafness—are all found in patients who have thickened middle or superior turbinated bodies lying in contact with the septum, or other obstructions in the nose. And I believe catarrhal conditions more frequently result from such obstruction than from all other causes combined. By obstruction I would not be understood to mean occlusion, necessarily. There may be no encroachment upon the respiratory tract, respiration may be perfectly free through the nose, yet, if there be a contact ever so slight—if persistent—of surfaces not normally in contact, we shall certainly find inflamed tissue beyond. Perhaps more frequently than any other primal cause of catarrh is a thickened middle turbinated body causing contact with, and more or less pressure upon, the septum, which may be deflected or not.

Normal secretions—which are bland and alkaline—are retained by this contact of surfaces, with most favorable conditions for putrefaction. The secretions become acrid and, flowing down constantly over sensitive surfaces, cause congestion, inflammation, and this condition we have called catarrh. The inferior turbinated body may lie upon the floor of the nose, or, as sometimes occurs, may become adherent to the outer wall of the nose. A pendent portion of the middle turbinated may adhere to the inferior, as we have seen, and in every case a profound disturbance will result. An ecchondroma or a deflected septum may touch portions of the turbinate tissue, a tumor or foreign body may obstruct—and distressing asthma, aphonia, supra-orbital neuralgia, enlarged glands, dyspepsia—in short, any of the immediate or remote effects of catarrh be produced.

Children, we know, are more susceptible to these influences than adults; their gland life is more active, their absorbent capacity greater. Foreign bodies are more likely to find their way into the nasal chambers of children, with results always more severe.

The cure is always of deepest interest—the end sought for. Our patient is before us; what is his disease? where is its secret hiding place? He tells us of his sufferings; we note his symptoms. He is hoarse, has a dropping into his throat, a hacking cough, profuse expectoration at times, headache over the eyes, a ringing in the ears, poor appetite, his eyes trouble him if he reads or uses them in any ordinary close work, he has spells of sneezing, takes cold on the slightest exposure, is asthmatic, suffers with hay fever at certain seasons, is nervous, and in general does not feel well. We look at his tongue, find increased redness toward its base with enlarged papillæ, perhaps varices, the uvula relaxed and elongated, the fauces congested and tonsils enlarged, the pharynx coated with tenacious mucus, the muciparous glands inflamed, the lateral walls red and swollen. The larynx may appear quite normal notwithstanding the hoarseness. In the naso-pharynx we find a general inflammation with hypertrophied tonsillar tissue.

Anteriorly we may find the septum fairly straight, the inferior turbinated body swollen, but soft on pressure with a probe. Cocaine solution causes speedy contraction, and we may perhaps see the posterior wall of the pharynx. Further search reveals a hard mass pressing upon the septum, acutely sensitive, unyielding, lying above and back of the anterior portion of the inferior turbinated. It occupies the place of the middle turbinated body and is an hypertrophy of that organ. The ætiology of this condition is interesting and profitable, but the fact and its persistency are at present the terminus of our search. It may be the primary cause of all symptoms enumerated, and must be removed as certainly as we would remove any other foreign body from the nose if we would cure our patient. It may be done with burr or trephine, with actual cautery, chromic acid, or with proper forceps. By the latter method I have been most successful, and it seems less terrifying to the patient. It is not a difficult operation, but is done better and easier after practice, of course.

Always use the best means at command. While I would urge that a sufficient amount be taken away to thoroughly free the passage, I would also caution against unnecessary destruction of tissue. In several hundred cases that I have records of I have known no bad results. This is not impossible. As in all surgery about the head, we have at times unproportional shock, and great care is never out of place in doing these operations.

If I seem to give undue prominence to middle turbinated hypertrophies, it is because I find less written about them and they are less often recognized and talked of as causes of catarrh. I believe, furthermore, they are the obscure but primal cause of more misery than perhaps any other organ of the human body.

As I have stated, we have many forms of nasal obstruction. Bosworth, in his late work on diseases of the nose, states that "deformities of the nasal septum, either as a result of traumatism or inflammatory action, are probably the most frequent of all the exciting causes of catarrhal inflammation in the nasal mucous membrane." Probably four fifths of all septa are more or less distorted, and, *if in contact with turbinated tissue or the floor of the nose*, will certainly produce the condition we are calling catarrh; not otherwise. While causes continue to act, results will continue to follow. In every department of surgery we are taught to remove the cause of evil when that can be done. Do not prescribe for a mere symptom, expecting to cure the man. Remove the cause, then heal the wounds.

I have not given details of treatment or told you of cases cured by it. This may not be necessary. We have excellent men and books, and I am indebted to them for wise counsel; each has contributed from his experience. I have told you mine.

Amid favoring conditions the skillful surgeon sometimes fails. No man can cure *every* case of catarrh. It is always difficult—only persistent effort ever wins—but it is not incurable. The worst cases frequently soonest recover, because urgency demands it. The patient and physician are both in earnest; they do their work thoroughly, are persevering; they pay the price fixed for success.

Whether or not I have proved what I proposed, or convinced you that catarrh is due to removable causes, these are my conclusions, and I am persuaded that clinical experience will establish their correctness:

1. The nose is not an unimportant organ, as some have seemed to suppose, but, physiologically and pathologically, it is of the first importance.

2. Its position and functions expose it to injury and disease necessarily. Variable temperatures, chemical and mechanical irritants, as well as its normal fluxes—perverted—tend to produce disease.

3. Its diseases yield to proper treatment as certainly as those of any other complicated organ.

4. So-called "catarrh" is not a disease *per se*, but a symptom or result of other lesions.

5. "Chronic nasal catarrh" is usually due to nasal obstruction. By this I mean not necessarily an occlusion of a nostril or even an obstruction to respiration, but simply an habitual contact of surfaces which are not normally so in contact.

6. Removing the cause is always the first step toward a cure, and this most frequently requires surgical interference. Local and general medication are of secondary, though by no means slight, importance.

7. The nose and its diseases are deserving of more study than has been given them by the profession generally, be-

cause the consequences of neglect are far-reaching and serious, and its surgery requires skill and experience.

8. Chronic nasal catarrh—so called—is not so difficult to cure as by many has been supposed, for it is the result of removable causes in most cases.

123 East Thirty-sixth Street.

BRIEF NOTES ON THE PROMPT RECOGNITION AND TREATMENT OF SYPHILIS OF THE BRAIN.*

By J. LEONARD CORNING, M. A., M. D.,
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Everybody knows how intractable are those nervous diseases classified as organic; how they evince slight improvement for a time, it may be; how they resume their fateful course again with renewed vigor, curtailing, and ultimately destroying, the functions of the structures which they consume; how finally the subject of their inroads is either killed by the disease itself or some intercurrent affection. How discouraging, how thankless is the management of such cases! How abortive our attempts to check them!

Invoke as we may the forces of earth and sky, we inevitably fail to neutralize the subtle, intangible influence which lies at the root of the morbid changes. Fail, did I say? Unquestionably; and that, too, with a constancy that is apparent on all sides.

One great exception there is, however, to this monotonous incompetency in the management of organic diseases of the nervous system; I refer to that large class of affections which owe their origin to syphilitic infection. Here we can antagonize the peccant influence with an infinitely better chance of ultimate success; hence the advisability of studying with special care the relation of syphilis to the ætiology of nervous diseases. One important point should be borne in mind by those who undertake such studies; namely, that all syphilitic affections of the nervous system are more amenable to treatment during their earlier stages than later on; yes, infinitely more so. From this fact arises the obligation of the physician to punctually detect and treat this class of cases. I know of no escape from this responsibility.

I should prefer, did the meager time at my disposal admit of it, to preface this paper with a review of the various pathological guises in which syphilis invades the nervous system. One might profitably speak of the deposits in the arteries—of syphilitic endarteritis and periarteritis, which play such an important part in cerebral pathology—of the formation of the node, of the thickening of the membranes. This, however, can not be done, and I shall therefore indicate at once the more salient manifestations, a knowledge of which will enable the practitioner to recognize syphilis of the brain in time to do something for it. This will be all the easier since, contrary to prevalent opinion, the symptoms of early cerebral syphilis are much more uniform than the later ones—a fact which at first might seem difficult to account for, when one considers how heterogeneous are the changes which lie at the root of these phenomena.

Symptoms.—Though cerebral syphilis is subject to great variations in its more advanced stages—chiefly on account of diversity of location—the *beginning* of the disease is, as already noted, characterized by a certain degree of uniformity. Chief among the earlier manifestations of cerebral syphilis are persistent, violent headaches. Sometimes the pain is intermittent in character, coming on in paroxysms of such severity that the subject feels as though a sharp instrument were being driven into the head. In a considerable percentage of cases the pains are particularly pronounced during the night, though the assumption of a recumbent position will often bring them on or add to their vehemence at any time.

Tender points are often found on the scalp, and ambulatory pains in other regions of the body are not uncommon. Let me observe at once, however, that the head-pains of incipient meningitis, cerebral tumor, and uræmia have a close resemblance to those due to syphilis, so that we should not be too hasty in assuming a specific foundation for the symptoms. It is a noteworthy fact too, let me once more repeat, that cerebral syphilis sometimes occurs in the entire absence of secondary, or even tangible primary symptoms, all of which tends, of course, to heighten the difficulty of diagnosis. Appreciating how impossible it is to form a conclusion merely from the previous history in such cases, most reliable writers recommend that the patient be given the benefit of the doubt, by placing him for a reasonable time upon appropriate antisyphilitic treatment.

In addition to the severe head-pains, many patients complain very early of attacks of vertigo, evanescent mental impairment assuming the form of a loss of the capacity to concentrate the thoughts or to remember recent events, sensory and motor derangements, impairment of sight or speech, or both. The derangements of motility usually assume the form of spasm and paralysis; they are confined to a small number of muscles, are often evanescent in character, and, while irregular in their manifestations, receive from this very irregularity a characteristic complexion.

Spasmodic phenomena, attaining sometimes to the dignity of veritable convulsions, are a comparatively early symptom and constitute frequent precursors of paralysis. These spasms are limited in character, being usually confined, as already noted, to certain groups of muscles. Thus the muscles of the arm, the hand, or the face may be involved in this way. Sometimes the spasm begins in one group of muscles, but, instead of remaining circumscribed, becomes progressive, involving one or both sides of the body; so that what was at first apparently nothing more than the innocent twitching of a few muscles may be converted into a severe attack of general convulsions. During the continuance of these convulsive seizures, consciousness may be unimpaired, partially affected, or more rarely lost. When the spasm is limited to a few muscles, it is spoken of as of monospasmodic character. The paralytic phenomena which appear subsequently to or accompany these spasms may be confined to a few muscles, or, more rarely, they may invade one side of the body.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

In any event it must not be forgotten that the monospasm and monoplegia, conjoined with the proclivity of both these phenomena to appear and disappear, are the features which lend a distinctive stamp to the motor disturbances of syphilis.

Regarding the more fully developed hemiplegia of cerebral syphilis, it may be stated that while the attacks resemble in their general effect those due to cerebral hæmorrhage, certain minor points of difference are usually discernible. Chief among these may be mentioned the fact, already frequently alluded to, that the paralyses due to cerebral syphilis are usually more circumscribed in character than those which follow cerebral hæmorrhage. Thus the face or arm or both may be involved, while the leg remains unaffected. Again, the paralysis by cerebral hæmorrhage comes on suddenly, while that due to syphilis of the brain is more gradual and insidious in its advent, manifesting, moreover, a tendency to pass from one muscle or group of muscles to another.

In discussing the pathology of nervous syphilis, I have on a former occasion alluded to the fact that the nerves, and particularly the cranial nerves, are often implicated. Those most frequently affected are the oculo-motorius, the abducens, and the facial. Other cranial nerves—such as the opticus, acusticus, trigeminus, and hypoglossus—may likewise be paralyzed. It is worthy of remark in this connection that the partial or complete paralysis of the oculo-motor nerve sometimes occurs simultaneously with paralysis of the abducens. Under such circumstances the complex character of symptoms evoked is capable of great variation, as a moment's reflection on the important offices of the nerves involved will abundantly show. There is, nevertheless, something distinctive about these paralyses; and when we find them, with or without a reliable history of primary or secondary symptoms, we are justified in suspecting syphilis.

The mental symptoms of cerebral syphilis have already been alluded to; and it therefore only remains to add that the degree of psychical impairment varies greatly. Thus the mental condition is sometimes so like that found in general paralysis of the insane that a differentiation is next to impossible, unless the occurrence of prodromic symptoms can be established. In other cases, the degree of mental impairment is slight, the patient complaining, perhaps, of nothing more than evanescent loss of memory or attention.

Diagnosis.—In regard to the diagnosis it may be stated that, in the absence of a distinct history of prodromic symptoms, we may strongly suspect that we have to do with a syphilitic lesion of the brain, when the paralytic or convulsive symptoms are irregular in development, are combined with the paralysis of some of the cerebral nerves just mentioned, and evince, besides, a tendency to alternate. The latter quality is highly significant, since it shows us that we have in all likelihood to do with more than one central focus of disease.

Treatment.—Of course the question of first importance is to get the subject thoroughly under the influence of treatment as soon as possible. This is all the more desirable, as will readily appear when we reflect that each delay increases the probability of destruction by the disease of some important part, which, do what we may, we shall by no chance succeed in restoring.

In my judgment the combined treatment with iodides and mercury offers certain advantages—the iodides to dissipate the morbific deposit, and mercury to prevent a further agglomeration. When speaking of the *modus operandi* of these drugs, I do not of course pretend to say that the foregoing statement regarding their physiological effects is altogether objective. Still, it embodies the views held by a number of observers of recognized ability, and is therefore entitled to some consideration. Without pursuing the matter further, let me state that it is usually well to begin energetically, and to this end the iodide of potassium should be given in ever-increasing doses until the symptoms show a well-marked inclination to yield to treatment. A great deal has been said and written regarding the limits to which medication with the iodides may be carried. I myself have never carried them beyond a hundred and seventy-five or two hundred grains to the dose. As a rule, much smaller doses will be found adequate to produce tangible effects. From one hundred to one hundred and fifty grains will generally be found sufficient. But it is impossible to predict in advance just how much of the chemical will be required to produce permanent effects upon the system. Generally speaking, however, it may be stated that the use of the remedy should be continued with as little intermission as possible for months at a time. The usual precautions in administering large quantities of the iodide are to be followed. Each dose is to be abundantly diluted with water; the bowels, if loose, are to be regulated by the aid of a few drops of the tincture of opium; acne may be counteracted with Fowler's solution; and, finally, if there is vomiting, treatment may be discontinued altogether for a time, or, at all events, the dose should be materially reduced. As regards the most effective manner of administering mercury, I may state in conclusion that I prefer to give it in the form of inunction, from two to five scruples being rubbed in daily.

Finally, whatever be the special plan of treatment adopted, it should be persisted in until we have very good reason to believe that we have produced much more than a merely evanescent impression upon the disease.

53 West Thirty-eighth Street, New York.

SYRUP OF HYDRIODIC ACID.

By JOHN AULDE, M. D.,

DEMONSTRATOR OF CLINICAL MEDICINE, AND LATELY DEMONSTRATOR OF PHYSICAL DIAGNOSIS, IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

So much has already been written of the virtues of the syrup of hydriodic acid that it would appear to be a work of supererogation were I to attempt anything more in the way of therapeutical indications. In fact, the entire category of ills that human flesh is heir to is now included and practically covered by the applications of hydriodic acid. Beginning with syphilis, one of the most formidable of all diseases, and extending down to its administration for its prophylactic effect in the case of a pin-scratch, it seems almost impossible to add any suggestions which shall increase its utility or extend its range of application. Indeed, very few remedies at the present time enjoy a greater popularity than the one under consideration, and, with the view of maintaining that reputation for the drug, I am disposed to file my testimony. Not that I care to increase the number of disorders to which it is applicable, but rather in the hope that I may be able to say something which shall be used as a guide in some uses to which it is so well adapted. Having attained such widespread popularity, the danger now lies in the possibility of its being over-employed rather than under-employed, and, accordingly, the resulting failures from its injudicious use will bring discredit upon it, and thus another valuable remedy is liable to be consigned to oblivion. A generation hence it may again be discovered, and again pass through the same cycle of misfortune. The signs of the times indisputably show the successful applications of the drug, but our indorsements must be such that it will not be accepted as a universal panacea. Another circumstance which possibly may contribute to its downfall is that the different manufacturers may neglect to give its preparation the attention which a delicate product of this character demands; but of this matter I shall take occasion to speak later.

The treatment of syphilis I shall not undertake to discuss in connection with the uses of the remedy, but will direct my attention to diseases which are especially common at this season of the year, and the paper will therefore prove of more interest to the general practitioner. The spring of the year always brings with it an increased number of pulmonary and bronchial affections, but the present season, owing to the prevalence of influenza during the past winter, is likely to be much more fruitful in this particular direction than previous years.

By some, the bronchial irritations are regarded as the initial stage of phthisis, or, more properly speaking, the bronchitis becomes the predisposing cause. If it is true that the development of phthisis pulmonalis is dependent upon the presence of the bacillus, the use of iodine taken internally would probably have some value through its influence over sepsis, although in the doses administered it could not be expected to arrest the development and multiplication of the bacilli. If it is admitted that chronic bronchitis prepares the soil for the *Bacillus tuberculosis*, and that through this diseased condition of the tissues the germ finds a suitable nidus for its development, then the idea that phthisis is a contagious disease falls to the ground. Under these conditions, pulmonary tuberculosis is no more a contagious disease than typhoid fever, but, like that disease, it is perpetuated, and the germs carried from place to place through the medium of water, clothing, air, or food, and proceeds with its deadly work wherever a suitable field is presented for their growth. In other words, it is propagated by contact, just as typhoid fever is propagated; it requires for its successful propagation the germ and the soil, and that the two shall be placed in intimate and close relationship with each other. In short, there must be contact, and by an inductive process of reasoning we may thus demonstrate that phthisis pulmonalis is a *contactuous* disease.

No one disputes this train of reasoning in the case of typhoid fever, and when the same principles are applied toward the elucidation of the causation of phthisis, we are likely to hear less of its contagious character. Measures are even now adopted, and others have been suggested, looking to a more perfect protection from the dangers of the disease than is afforded by the usual facilities supplied by nature. Human ant-hills of a million or over find that artificial methods of protection are demanded by the artificial life and peculiar habits incident to our modern civilization, and while I can not conscientiously offer hydriodic acid as a barrier against the invasion of the deadly germ, I am free to say that its judicious employment will add materially to the resistance of the organism. As adjuvants to treatment, and probably of equal or greater importance, I can not overlook the need for fresh air, suitable exercise, together with properly selected nutritious diet.

Iodine has long been recognized as one of our most acceptable alteratives, and by some it is believed to possess catalytic properties, but in many cases, as heretofore used, it has not been available, owing to the derangements of digestion which followed its exhibition. Like other alteratives—as arsenic, antimony, mercury, and a long list of vegetable products which have strong claims for recognition—hydriodic acid must be studied in order to appreciate the indications. The treatment of chronic bronchitis well illustrates this proposition. Not infrequently the physician will meet with cases which do not respond to the usual methods of treatment, but after a time he finds that some preparation of iodine affords prompt relief, and he is unable to explain the reasons therefor; nor is he able to indicate with any degree of certainty the particular cases which will receive benefit from this method of medication.

My impression leads to the suggestion that the cases of this character relieved by preparations of iodine are principally those in which the morbid condition is associated either directly or indirectly with a rheumatic element. In truth, one must be extremely obtuse not to observe that these patients are generally affected by changes in the weather, and that their freedom from pain and irritation goes hand in hand with activity of the hepatic function. Derangement of the liver has a tendency to throw more work upon the bronchial mucous membrane, and hence the elimination of waste products is retarded. In all chronic cases, therefore, the condition of this organ must be considered, and medication should be directed as much to the hepatic function as to the respiratory apparatus. Fortunately, iodine in the form of hydriodic acid is well calculated to modify metabolism in both structures, and in special cases, where there is a history of repeated attacks of acute bronchial catarrh, along with persistent chronicity of the original malady, an excellent combination may be effected by the addition of arsenic. The following formula I have used for some years past with very gratifying results:

℞ Liq. potassii arsenitis.................... ʒj;
Syr. acidi hydriodici (Hostelley & Co.'s), q. s. ad ℥ iij.
M. Sig.: Take one teaspoonful in water after meals.

The advantages of this combination will be understood when we recall the fact that, while iodine renders yeoman service in removing the waste products from the system, it lacks that peculiar property of causing fatty degeneration of morbid tissue possessed by arsenic. Both drugs acting together will accomplish more than could be expected from one of them alone, although this remark does not apply with so much force to the more recent cases. Nature steps in here after the subsidence of the acute symptoms and takes the rôle of arsenic in the chronic cases, while iodine preparations are practically constant in their activities and seem to possess wonderful power in aiding Nature to throw off excrementitious material.

By way of digression, I may be permitted to say in connection with the foregoing prescription that the manufacturer has been specified for the reason that for a long time I have been using this preparation and have always found it reliable—so much so, in fact, that the effects of medication could be estimated with a degree of certainty approaching mathematical exactness. Instead of detracting from the reputation of other preparations, it will rather have the effect of furnishing other manufacturers with an incentive to imitate this particular preparation, and we shall find that the standard will thus be elevated rather than lowered. Owing to its peculiar delicacy, the syrup of hydriodic acid presents few inducements for adulteration, as, when exposed to light or kept for any length of time, the color begins to change, and the iodine is precipitated, which makes the compound unsightly and shows at once that it is unfit for use. The Messrs. Hostelley have, certainly placed the profession under obligations by putting within their reach a product requiring so much care in its manufacture, which is at once reliable and efficient; and the medical profession is to be congratulated upon the success which has attended their efforts in this direction.

There is a form of chronic bronchitis that brings with it a cough which is most persistent in the winter time, and it has therefore very aptly been named "winter cough." This peculiar cough has shown itself especially amenable to terebene, given in the form of capsules, ten minims at a time, every four hours; but, from experience with this particular affection, I feel warranted in assuming that the allaying of the cough from the use of terebene is but temporary, and that it is but a question of time when the malady will be reproduced in all its force. It is far more troublesome in England and in countries in which the relative humidity is great than in the greater portion of this country, and Dr. Murrell, of London, has tried many remedies in the hope of being able to bring the affection under control. Various forms of spray and inhalations have been used, and among the number of drugs which have afforded the best results may be mentioned terebene internally and the use of the ipecac spray.

Now, I venture to make a suggestion which, if adopted, will have the effect of removing the morbid condition so completely that normal tissue-change will be promoted and health regained. This can be accomplished, I think, by the alternate use of remedies like arsenic, already mentioned, directed to the condition of the respiratory apparatus, with remedies like ipecac and berberis aquifolium, mainly intended to stimulate the activity of the liver and glandular appendages, together with the long-continued use of hydriodic acid in the form of syrup. So susceptible is the combination to foreign substances that but few drugs will combine with it, and we are therefore compelled for the most part to have the acid taken separately. The most convenient plan, therefore, is to alternate this with some other remedy, a matter which can be borne in mind from time to time as the patient is seen.

A case is recalled in which the patient had long suffered from right-sided catarrhal pneumonia, accompanied by chronic interstitial hepatitis, together with a very offensive nasal catarrh, but, by following out the plan here indicated, a year's treatment made a very respectable citizen of what was little more in the beginning than a walking cadaver. He gained about twenty pounds in weight, the appetite was almost ravenous, and, after the expectoration of immense quantities of the most horribly offensive muco-purulent material, his condition was such as to permit him to work in an unexposed business regularly every day.

In closing my reference to this plan of treatment, it should be added that in all these instances the system must suffer from the depressing effects of an abnormal discharge, to say nothing of the septic influences at work. It should, therefore, be our object to improve nutrition, if possible, by other means than those mentioned, and I would suggest, after the *débris* had been disposed of and the coast cleared, that an attempt be made to enrich the blood by suitable drugs, as iron, for example. A preparation of iron can be selected which is readily assimilable, not constipating, as the malate or the subcarbonate or the combination known as Blaud's pill, either of which may be administered at the same time with the hydriodic acid, although not at the same moment. If we desire to continue the effect of arsenic, the iron can be combined with it; and where the patient suffers from depression of the nervous system, something in the form of a nervine tonic, as strychnine or ignatia, may be added. The following will answer the purpose admirably:

℞ Acidi arseniosi, }
Strychninæ sulphat., } .... āā gr. ss.;
Mass. ferri subcarbonat............ gr. xxv.

M. et fnt. tab. trit. No. xxv. Sig.: One pill with meals.

Along with this, the syrup of hydriodic acid can be taken half an hour after meals. These suggestions, of course, presuppose that the condition of the bowels is attended to and that the evacuations are sufficiently frequent and the consistency of the stools such that there are no indications of faulty action of the liver, nor that the bile is poured out into the intestine and reabsorbed. In case a laxative is required, small doses of cascara sagrada supply an important link in the chain of treatment. It would be interesting here to take up the study of the effect of hydriodic acid in the treatment of diseases of the skin, many of which depend directly upon the condition of the alimentary tract, but it must be postponed for the present.

1910 Arch Street.

The Medical Department of Dartmouth College.—The ninety-fourth annual course of medical lectures will begin on Wednesday, July 16, 1890. The session will continue twenty weeks.

A CASE OF COMPOUND FRACTURE OF THE SKULL,

WITH EXTENSIVE LACERATION OF THE SOFT PARTS,

COMPLICATED WITH RUPTURE OF THE CHORIOID OF THE RIGHT EYE BY CONTRE-COUP,

TREATED BY STRICT ANTISEPTIC METHODS. RECOVERY.[*]

By C. E. LOCKWOOD, M.D.

On April 2, 1889, at 5.30 a. m., I was hastily summoned to attend Miss B., thirty-seven years of age, who had received during the night a severe injury of the head. On my arrival I found the patient in bed conscious, but unable to give a clear account of the mode of infliction of the injury, except that she said she awoke and felt a severe pain in the head, and discovered that she was bleeding from this part, and she stated that she was able to go up one flight of stairs and call another member of the family. On examination, I discovered a contused and lacerated wound of the head, extending from the right external angular process of the frontal bone about two inches backward to the temporal region, an inch downward to the right of the external canthus of the right eye, and one inch upward, involving the right eyebrow. The periosteum over the temporal bone was lacerated and separated from its attachment to the bony surface to the extent of an inch. There was chemosis of the conjunctiva and swelling and ecchymosis of the upper and lower lids of the right eye. There were symptoms of slight concussion and shock, but none of compression, patient complaining of feeling cold and vomiting blood, and bleeding from the nose; the source of blood probably having been rupture of capillary vessels in the frontal sinus. Hot bottles having been applied to the lower extremities, I proceeded to make a thorough examination of the wound. I detected with my finger-nail a slightly depressed fracture of the external angular process of the frontal bone, and a crack in the temporal bone extending backward, how far I was unable to ascertain. Recognizing the gravity of the injury and the necessity of extreme care in the initial treatment, with a view of preventing unpleasant future complications, I brought the edges of the wound together with strips of adhesive plaster, and, covering it with a compress soaked in a two-per-cent. solution of carbolic acid, I called Dr. J. D. Bryant and Dr. A. H. Doty in consultation. At 10.30 a. m., after a careful examination, previous diagnosis having been confirmed, the wound was thoroughly cleansed with a hot solution of corrosive sublimate (1 to 1,000), a small amount of iodoform sprinkled in the wound, and, having inserted a horse-hair drain formed by doubling about twenty hairs soaked in solution of corrosive sublimate (1 to 1,000), the edges were brought together as closely as possible and united by a six-per-cent. carbolized continuous catgut suture; line of wound was then sprinkled with iodoform and covered with ten-per-cent. iodoform gauze held in place by carbolized gauze bandage. Perfect quiet was enforced, ten grains of calomel and fifteen grains of jalap were administered to procure free derivative action of the bowels, and thirty grains of bromide of potassium prescribed to be taken every three or four hours.

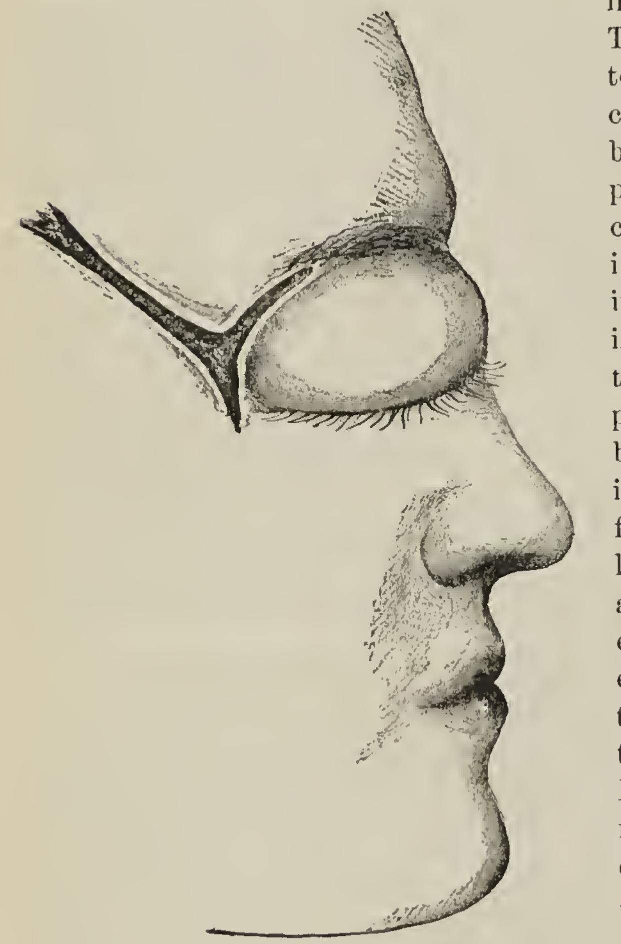

Fig. 1.

At 12 m., temperature under the tongue was 100°, pulse 96; 9 p. m., temperature 98·4°, pulse 96. Bowels moved freely during the afternoon.

April 3d.—10.30 a. m., temperature 99·8°, pulse 78; 10 p. m., temperature 100·8°, pulse 90. Thirty grains of bromide of potassium and ten grains of ergot were prescribed every four hours to relieve the distended cerebral blood-vessels.

4th.—10 a. m., temperature 99·6°, pulse 82; 10 p. m., temperature 100°, pulse 81. Bromide and ergot continued. Nourishment, half goblet of milk and teaspoonful of lime-water every two hours. Patient complaining of pain in the head, ordered ten grains of antipyrine, with instructions to repeat same dose in one hour in case of non-relief. Bowels not having moved since April 2d, administered ten grains of calomel and one fourth of a grain of resin of podophyllum.

5th.—10 a. m., temperature 100°, pulse 81; 10 p. m., temperature 100°, pulse 84. Bromide and ergot continued; bowels moved freely during the day; complained of tenderness of the gums, breath offensive; salivary secretion not much increased: slight salivation diagnosticated, probably resulting from strong solution of corrosive sublimate used in cleansing the wound April 2d.

7th.—12 m., temperature 99·2°, pulse 84; 6 p. m., temperature 99·8°, pulse 84. Suffered much during previous night from headache, restlessness, and insomnia; bowels moved by Rubinat water; bromide and ergot continued; nourishment, milk, two quarts.

8th.—11 a. m., temperature 98·5°, pulse 72; 4 p. m., temperature 99·8°, pulse 78. Still complains of headache and insomnia; prescribed twenty grains of antipyrine for headache, and bromidia as a hypnotic.

9th.—11 a. m., temperature 99·4°, pulse 72; 11 p. m., temperature 100°, pulse 84. Bromidia was non-effectual as a hypnotic; had severe pain in right side of head from 1 to 6 a. m., for which prescribed ten minims of McMunn's elixir of opium to be repeated every two hours until three doses were taken, with result of relieving pain; bowels moved by glycerin and water injection; milk diet continued.

10th.—10.30 a. m., temperature 99·8°, pulse 84; 5 p. m., temperature 99·4°, pulse 72. Patient restless and nervous; ordered thirty grains of bromide of potassium and ten minims of McMunn's elixir of opium, which was followed by sleep for three hours. Eight days having elapsed since the receipt of the injury, the dressings on the wound were removed by soaking with warm carbolated water, and the line of union was found to be perfect throughout, except in that portion over the external angular process of the frontal bone, where, owing probably to the severe bruising of the tissues, it was soft and slightly sloughy. The catgut sutures had been entirely absorbed, but the horse-hair drain was still intact; there was considerable chemosis of the conjunctiva. No further interference being thought necessary, the wound was redressed by covering it with fifty-per-cent. iodoform gauze held in place by carbolized gauze bandage.

12th.—Removed horse-hair drain; noticed some suppuration at center of the wound; re-applied iodoform gauze as before.

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[*] Read before the Alumni Association of Bellevue Hospital, January 8, 1890.

18th.—Removed iodoform gauze; found line of union covered by a scab; no suppuration discernible in any portion of the wound; carbolized gauze was applied to prevent removal of the scab.

19th.—All bandages having been removed, patient complained that she was unable to see with the right eye, but that she noticed a black, feathery-looking substance which seemed to float in the field of vision and a black substance, which so interfered with her sight that it was difficult to see anything when the other eye was closed.

24th.—Suspecting the nature of the injury of the eye, I asked Dr. C. S. Bull to make an ophthalmoscopic examination, which he did with the following results: A clot in the vitreous humor; rupture of the retina, with hæmorrhage and retinitis; rupture of the chorioid at the lower part of the fundus, with hæmorrhage and clot. Dr. Bull said that the injuries had been caused by *contre-coup*, and that those of the retina would get well, but those of the chorioid would never be so thoroughly repaired as not to interfere with sight; that the patient would be able to see objects below the face level but not above. He recommended that a two-grain solution of atropine be dropped into the injured eye night and morning and the use of one fiftieth of a grain of strychnine and bichloride of mercury three times a day, gradually increasing the dose until one tenth of a grain of each drug was reached, with the view of promoting absorption of foreign matters, treatment with bichloride to be begun after symptoms of salivation had disappeared.

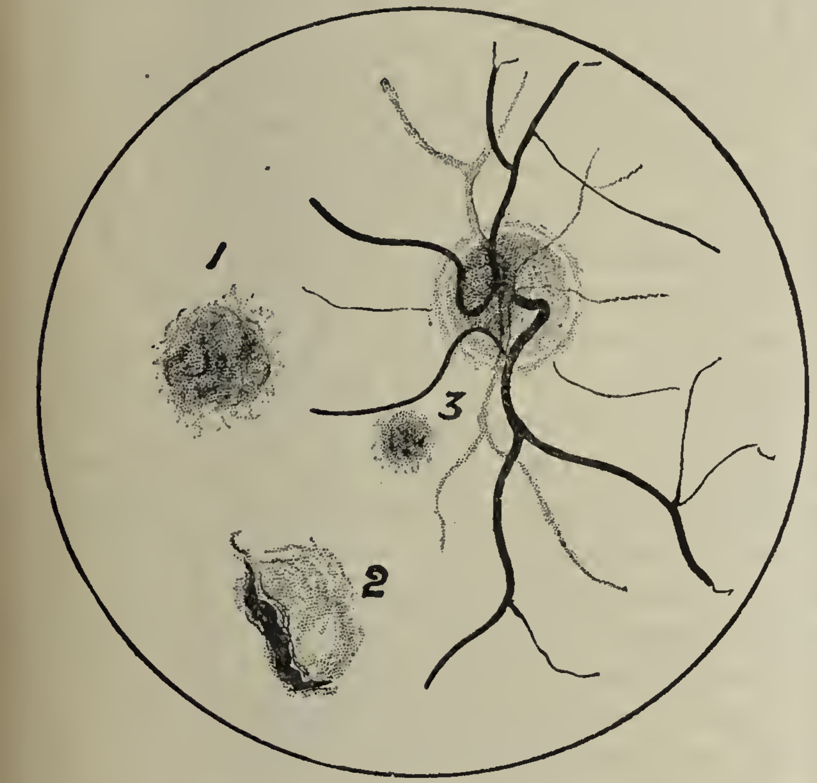

Fig. 2.

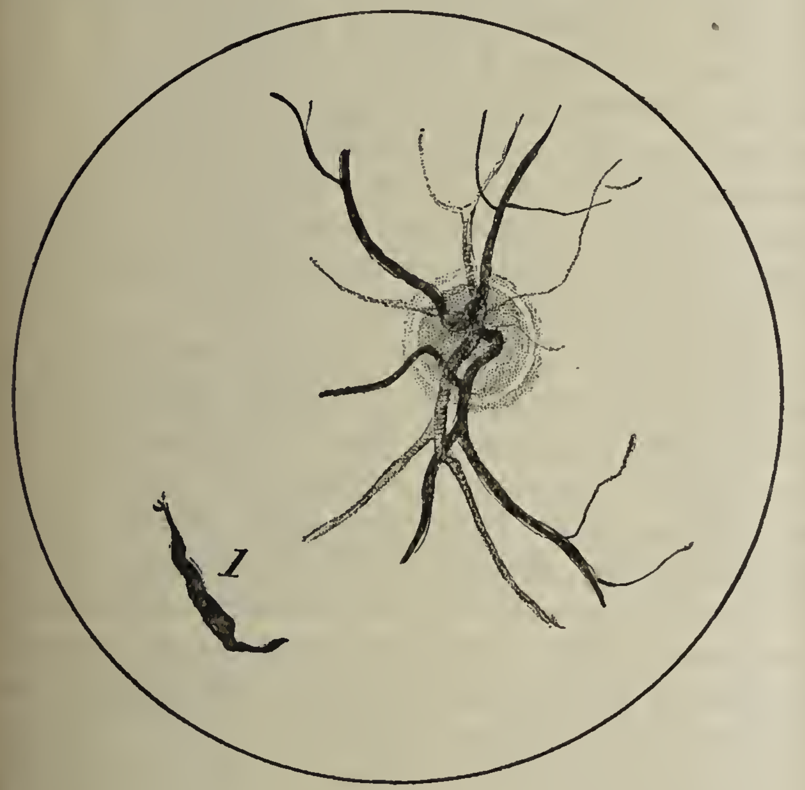

Fig. 3.

May 25th.—I was obliged to discontinue the use of bichloride of mercury and strychnine, owing to the soreness of the gums. Patient says that the floating object is smaller and the black spot thinner.

July 1st.—At the request of the patient, Dr. H. Knapp made an ophthalmoscopic examination of the injured eye, and diagnosticated rupture of the chorioid with white fibrine left *in situ*, which he thought would probably be entirely absorbed in about three months. He said the other eye would not be affected and patient would not be cross-eyed, but that she would never see much better than she did at that time.

The points of interest in this case seem to me to be—

1. The peculiarity and site of the fracture.
2. The great contusion and laceration of the soft parts and the remarkable manner in which the wound healed without suppurative inflammation under strict antiseptic treatment.
3. The effect of the derivative action of cathartics, bromide, and ergot in preventing cerebral complications.
4. The rupture of the chorioid of the eye by *contre-coup* and the necessity of making investigation as to the condition of the sight after such injuries with reference to the future prognosis.
5. The slight salivation produced by the use of solution of corrosive sublimate (1 to 1,000) in cleansing the wound.

NOTES ON THE INHALATION TREATMENT OF RESPIRATORY DISEASES.*

By W. L. Baner, M. D.

In presenting these few notes on a subject about which so much has been said and written, it is no more than fair that I should, at the outset, state my reasons for so doing. From the theoretical standpoint, a plan of treatment which has for its fundamental principle the bringing of medicinal substances into immediate contact with the tissues which are diseased must commend itself as rational. Practically, however, there have been many objections in the path of the inhalation treatment, and I can safely say that this therapeutic measure does not at the present time hold the position which it should hold in the armamentarium of the profession in general. Many men have taken up inhalations enthusiastically, have expected too much from them, have been disappointed, and have discarded them from their practice. Many others have opposed inhalations on theoretical grounds, and have never given them a fair trial.

The disappointment met with in the employment of the older methods of inhalation accounts, I think, in great measure, for the lack of enthusiasm in the profession with regard to the recent material improvements. So long as we were dependent on the inhalation of odors—that is, on the use of those substances which are volatile at ordinary or slightly elevated temperatures—very little could be expected from the treatment. In fact, one is surprised at the amount of good which those inhalations actually accomplished. While house physician in Charity Hospital under Dr. Beverley Robinson, I had opportunity for studying the good effects of his eucalyptol and creasote inhalation, both in the perforated zinc oro-nasal inhalers and in a simple oral inhaler consisting of a glass tube and a piece of absorbent cotton. These inhalations were given to phthisical patients, particularly at night, and, although they did not do good in every case, in a large number they entirely obviated the necessity of using cough mixtures containing sedatives. In private practice, also, I have seen several cases in which they were very efficacious. These results must be declared extremely good when we consider the very small amount of the medicinal substance which is really taken into the lungs—it being shown by Dr. Hassell, in his comprehensive work on inhalations, that at least four fifths of the few drops employed in the inhaler can actually be recovered from it after the completion of the inhalation. Of course a very large percentage of the one fifth not recovered passes off into the surrounding air.

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* Read before the Society of the Alumni of Charity Hospital, February 11, 1890.

When atomizers began to come into use for the application of medicated sprays to the upper air-passages, the question of inhaling the atomized fluid into the lungs was considerably discussed, the final verdict being that it was impossible to inhale this spray much below the vocal cords. A very important modification was soon brought forward, however, which put an end to all discussion on this point. This was the invention of the so-called nebulizers—machines in which the spray from an atomizer was received into an inclosed vessel and churned into a veritable cloud. This "dry vapor," as it is paradoxically called, can be inhaled as readily as smoke. The Bessler globe is about the best known of this class of inhaling machine, and was, I believe, the first to be put before the profession. The simpler inhalers of Evans and Oliver have the advantage of a smaller chamber for receiving the spray, causing it to be churned to a state of finer nebulization—if I may make use of such a term. My experience with this form of inhaling apparatus has been with those extemporized from an ordinary atomizer and a wide-mouthed bottle. Two holes were cut in the cork of the bottle—one for the entrance of the tip of the atomizer tube, the other for the exit of a glass tube to be used as a mouth-piece. This somewhat rude contrivance was found to answer perfectly well.

With regard to this method of inhalation, I was much interested in reading a little brochure published a year or so ago by Dr. Rollin B. Gray, then of this city. Dr. Gray not only uses a nebulizer of this kind (Evans's) for directly medicating the air-passages, but also for giving his patients with phthisis and chronic bronchitis a "change of air," allowing those from the interior to enjoy the "tonic influence of sea-water vapor" and those from the seaboard the "balsamic and ozonic air" of the pine woods. This not only sounds well, but I believe contains a certain amount of truth; for we know that it is the attention to the details of treatment which often makes the difference between curing and not curing these patients, so that every little we can add to the hygienic management of the case helps the chances of recovery. It should, of course, be remembered that many phthisical patients are absolutely injured by a moist atmosphere; and, personally, since my attention was called to the use of the fluid petroleum sprays, I have almost discarded the nebulizers.

The advantages of an inhalation which has as its basis a bland fluid petroleum product are very many. The light specific gravity of the fluid and its oily consistence cause it to be readily broken up by an ordinary atomizer into a light cloud without the use of any other apparatus. This spray can be inhaled as easily as the smoke from a cigar or cigarette; and, used after as much as possible of the residual air has been expelled from the lungs by forced expiration, it undoubtedly penetrates to the pulmonary vesicles. All danger of catching cold, which is present to a certain extent after the use of aqueous inhalations, is entirely absent with these oily preparations. In fact, the coating of the respiratory tract with a bland protecting substance like vaseline must necessarily much diminish any such tendency. The field of aqueous inhalations in acute inflammations of the lower air-passages is necessarily very limited. With these oily vapors, on the other hand, it is very considerable. I can testify, from my personal experience with acute bronchitis, that a spray of warmed vaseline inhaled into the bronchi very much relieved the irritation, and I believe materially shortened the attack. In a number of my patients the bronchitis following the "grippe," and which showed a tendency to hang on longer than it should, was undoubtedly relieved by the same procedure.

With regard to the preparations which we can use, I think that pure warmed vaseline has some advantages over the fluids. It remains longer in contact with the tissues, which is of undoubted advantage. Dr. Rumbold, of St. Louis, has investigated this subject in the nose and throat, and has been able to detect vaseline on the mucous membrane eighty hours after it was applied by a warm spray. Fluid cosmoline could not be found after more than two hours. It is, of course, much less trouble to use the preparations which are fluid at ordinary temperatures. Fluid cosmoline has always been objectionable on account of its disagreeable odor and taste, and a certain slightly irritative quality which it possesses. Some of our large wholesale drug houses have recently brought out some fine fluid preparations, under proprietary names, which overcome these objections. Benzoinol and albolene are two of these which are very good indeed, and are easily combined with a large number of the most valuable remedies and antiseptics. The taste of the benzoinol is perhaps a trifle more pleasant. Albolene is, I believe, somewhat lower in price. The latter is dispensed by the druggist where the prescription calls for "white paraffin oil." This term is used by those who desire to avoid the proprietary name of the preparations. For my part, I think it is better for us to write for just what we want used, even if we do have to employ a copyrighted name to get it. The proprietary names vaseline, cosmoline, albolene, benzoinol, etc., undoubtedly signify grades of difference according to the somewhat different processes used by the different makers. The druggist will dispense a proprietary preparation if we call for "petrolatum" or "white paraffin oil"—then why not signify the one we desire him to use?

With regard to the apparatus to be used with this form of inhalation, an ordinary atomizer is all that is required for the fluid preparations. It has been my experience that much better results are obtained where the inhalations are taken under supervision, and the voluminous spray from the office condenser is used under good pressure, than is possible from the hand-ball apparatus. In the absence of the former, however, or in cases where it can not be used, very good results can be obtained with the latter. Even the cheap perfume atomizers of the "notion counter" may be made to do very good work. When it is thought better to use vaseline jelly, it is, of course, necessary to have some apparatus in which it may be warmed and brought to a fluid consistency. The ordinary atomizer does not answer well for this, as the cold air from the condenser or bulb keeps the tubes cold and causes the vaseline to harden in them. There are several simple forms of vaseline atomizers on the market. A home-made spray of my own consists of an ordinary atomizer in a metal cup with a coil of tubing passing around the bottle. When the vaseline is being heated over the spirit lamp this coil becomes hot, and, in its turn, warms the air passing through it from the condenser. This apparatus works well, but does not, I believe, possess any material advantage over the simpler ones to be found in the market.

I am sorry I can not, at the present time, give clinical statistics with regard to this method of inhalation. I can only say this much: in acute and chronic bronchial troubles it has given great, but not universal, satisfaction. It is in acute bronchitis that I have found the most noticeable results. In this affection I have used warmed vaseline, both plain and carbolized, and also benzoinol. The results have been very satisfactory, whichever preparation has been used.

In two cases of phthisis it has been of great service in checking the cough and thereby much improving the general condition of the patient. In these cases the preparation used was a one-per-cent. solution of oleum pini silvestris in benzoinol. One of these patients has been relieved of all distressing symptoms for the three weeks or more during which this method of treatment has been pursued. Even if this patient should return at once to her previous distressing condition, I will feel that these inhalations have proved extremely valuable in having given her three weeks of comparative comfort after months of continuous suffering.

These notes must be considered merely in the light of a short contribution of personal experience to an interesting question. I have not attempted to go at all into the literature of the subject, and such very important topics as the pneumatic cabinet and Weigert's hot-air apparatus for phthisis I have not even mentioned. I have not had any personal experience with these forms of apparatus, and, whatever value time may show them to possess, they are certainly too unwieldy to come into very general use.

If, then, I can persuade any who, from unfortunate experience or other reason, have discarded inhalations from their practice to give them another trial, or if I can persuade any of those who always associate inhalations with phthisis to extend their field of usefulness to bronchial inflammations, both acute and chronic, my object will be fully accomplished.

Although not exactly within the lines of the inhalation question, I desire at this point to call attention to the use of menthol in coryza, applied by means of a vaseline spray. I first saw mention of this treatment in the Medical Record of November 23, 1889, and my attention was more particularly called to it by my friend Dr. Frank Ingram, who was much pleased with the results he had obtained. My own experience has been that a spray of benzoinol, containing a small percentage of menthol, applied to the mucous membrane of the nose which is the seat of an acute coryza, gives immediate and marked relief. It is almost, if not fully, equal, in my estimation, to cocaine, and can, of course, be used with much more freedom. The same spray applied to the fauces causes an almost intolerable dryness and tickling in the throat, with constant desire to swallow—explaining the cessation of the coryza, when applied to the inflamed Schneiderian membrane.

38 West Fortieth Street.

REPORT OF A CASE OF COMPLETE RUPTURE OF THE QUADRICEPS EXTENSOR MUSCLE,

TREATED BY MECHANICAL MEANS AND RESULTING IN A PERFECT CURE.

By CONDICT W. CUTLER, M.D.

On October 16th I was called to see a gentleman who (so the messenger stated) had fallen down the steps of the Elevated Railroad Station, and, as he was unable to walk, he had been carried to his home by some friends. On reaching my patient, a large, muscular man of about fifty-five years of age, I found him seated in a chair, with his leg extended and resting on a chair in front of him. Before examining the injury I obtained the following history of the accident: The patient had just left the elevated train, and was descending the stairs from the station to the street, when his left heel caught on one of the steps, and, feeling himself pitch forward, he exerted a very great muscular power in regaining his balance, and as he did so distinctly felt and heard something snap about his left knee, which immediately gave way from under him, and he fell to the steps. Upon trying to regain his feet, he found that he was unable to extend his left leg, or to stand upon it, and was obliged to be carried home.

On ripping up the trousers-leg and exposing the knee to view, I found the whole knee slightly red and greatly swollen, and a considerable depression above the patella. On flexing the leg I found the patella freely movable, very much more so than that on the opposite side, and separated by fluid from the trochlear surface of the femur. Immediately above it was a depression, about an inch wide and half an inch deep, extending directly across the front of the thigh, above the joint, into which I could readily place my thumb. The joint was hot and extended with fluid. Manipulation of the joint caused considerable pain. Flexing the leg on the thigh very much increased the width of the depression above the patella, but apparently lessened its depth, while the patella remained freely movable and prominent. While the leg was in the flexed position I asked the patient to straighten it out, but it was entirely impossible for him to do so; however, the contraction of the quadriceps extensor muscle could not only be distinctly felt, but plainly seen as well. During these efforts of extension I thought that I could detect the very slightest movement in the patella at its extreme left margin, but if such movement really did exist, it had no effect at all on the extension of the leg. Upon a closer examination and manipulation the patella was found perfectly whole, the injury being due to a complete rupture of the tendon of the quadriceps extensor muscle at or very near its insertion into the patella. The lower edge of the quadriceps extensor muscle at its point of rupture could be distinctly felt, and seemed to be as evenly divided transversely as though cut with a knife.

I explained the nature of the injury to the patient, and also the mechanical and operative plans of treatment, showing him plainly the advantages and disadvantages of each, and, after telling him I could only hope for a cure in either case, I advised him against primary operation and in favor of the mechanical method of treatment. I directed that for twenty-four hours he should keep the leg perfectly quiet in an extended position, and to keep cloths, wet with ice-cold lead-and-opium solution, continually applied. At the end of twenty-four hours I found the swelling in the knee greatly reduced, and the redness nearly gone. The patient in the mean time had consulted with his friends, and had decided to act on my advice, and to try the mechanical plan of treatment. On examination, I found that the ends of the ruptured tendon could, by complete extension of the leg on the thigh, and flexing the thigh on the trunk while pressure was made downward on the extensor muscles and upward on the patella, be very closely approximated, and my object, therefore, was to keep the parts in this position, to keep the knee immovable, and to insure complete extension of the leg. I carefully molded a long posterior splint of cloth to the back of the thigh and leg, carrying it from just below the gluteal fold to within a few inches of the ankle, and secured it in place by a couple of turns of a roller bandage.

By means of assistance the thigh was partially flexed on the trunk, and the patella and the upper end of the ruptured tendon were brought as closely together as possible by upward pressure on the patella and downward pressure on the quadriceps extensor muscle. While held in this position I applied two strips of adhesive plaster previously cut and measured to fit—one on the outer side of the thigh, extending from the great trochanter down to the patella and crossing below it to the opposite side; the other on the inner side of the thigh, extending from Poupart's ligament down to the lower part of the patella and crossing to the opposite side. These strips of plaster crossing below the patella were secured by a broad strip of plaster passing obliquely around the leg immediately below the patella and fastening to the posterior splint a little higher up. As the knee was still considerably swollen, I considered it better to put on a temporary dressing for a week, before applying a plaster splint. Applying a thick wad of cotton over the knee, I bandaged the leg tightly from the foot up to the hip, placing the leg on an inclined plane, so that the foot was raised about ten inches from the bed. I left the patient entirely free from pain and feeling very comfortable.

I visited him every day for a week, and each time found his condition very satisfactory. His appetite remained good; he slept well, and was entirely free from fever, and only complained of a little shooting pain at night above the knee, which, he explained to me, seemed to result from involuntary contractions of the muscles as he was falling off to sleep. At the end of a week I judged, from the looseness of the bandage over the knee, that the swelling was about gone. Removing the temporary dressing, I found the posterior splint and plasters holding the parts firmly and in very perfect position; so, without disturbing them, I applied a plaster-of-Paris splint over all, and then placed the leg again on an inclined plane. I kept the patient in this position for four weeks longer, gradually lessening the height of the inclined plane. At the end of this time I allowed the patient to get up and move about the room on crutches. One week later (six weeks after injury) I removed the plaster splint, and found the adhesive plaster still holding and the parts in good condition, and without any pain, tenderness, or swelling about the joint.

I decided to allow the posterior splint and adhesive plaster to remain another week, and simply applied a roller bandage from the toes to the hip. At the end of that time I removed everything, and found that the patella remained in its position, not too freely movable, and apparently firmly attached to the quadriceps extensor muscle, as voluntary contraction of the muscle while the leg remained in the extended position pulled the patella upward. I deemed it best not to flex the leg yet for another week; so, ordering the leg bathed thoroughly once a day in hot water, I again applied the posterior splint.

Eight weeks after injury I began to forcibly flex the leg at the knee, which was very stiff; but, when partially flexed, I found the patient had no difficulty in extending it. The patient could also walk a little with the aid of a cane. Forcibly flexing the leg more and more every day, at the end of two weeks it could be flexed through an angle of 90°, or brought at right angles with the thigh. Ten weeks after injury the patient was able to go up and down stairs, and three months after injury walked to my office, a distance of nearly a mile, having made an almost perfect recovery.

At the present time he is able to walk without the use of a cane, but says he prefers to use one, because it gives him more confidence. He still complains of a little stiffness in the knee joint and a little weakness in getting down stairs, but otherwise is as sound as ever.

260 West Fifty-seventh Street, *February 10, 1890.*

ACUTE DACRYOCYSTITIS.*

By DAVID WEBSTER, M. D.,

PROFESSOR OF OPHTHALMOLOGY IN THE NEW YORK POLYCLINIC, ETC.

That acute dacryocystitis, or abscess of the lacrymal sac, is a disease which comes under the observation and care of the general practitioner not very infrequently may be inferred from the fact that no less than seventy-eight patients were treated for that affection in the Manhattan Eye and Ear Hospital in the last two years. All, or nearly all, such patients first consult their family physicians, and are either treated by them or referred by them to specialists. It is highly important, therefore, that the general practitioner should be able to make a correct diagnosis in these cases, and the fact that several cases of acute dacryocystitis have recently come under my observation which had been diagnosticated and treated as *facial erysipelas* is what led me to say a few words on this subject to the State Society. A correct diagnosis is of the first importance, for upon it depends the treatment. I know of no other disease with which it is liable to be confounded besides erysipelas.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

The differences are these:

1. In acute dacryocystitis the principal swelling and tenderness is immediately over the lacrymal sac—that is, at the side of the nose and just below the inner canthus.
2. In facial erysipelas there is no more swelling over the sac than in the rest of the inflamed area.
3. In acute dacryocystitis the inflamed area is confined to the side of the nose, the upper part of the cheek, and the eyelids and conjunctiva. In rare instances the cornea becomes involved.
4. In facial erysipelas the area of inflammation often, if not always, includes the forehead and temple, and sometimes the upper lip.
5. The patient has a higher temperature, more fever, and greater physical prostration, though perhaps less pain, in erysipelas than in acute inflammation of the lacrymal sac.

It is generally not difficult to arrive at a correct diagnosis by observing the existing conditions in such cases. But in acute dacryocystitis a few questions will generally elicit the statement that the patient has had a "watery eye" or the "running over of the tears" from that eye for some time past—often for many years. It would seem that chronic catarrh of the lacrymal canal predisposes the sac to acute purulent inflammation.

Acute dacryocystitis, like an abscess anywhere else, is often ushered in with a chill. The swelling is sudden. The pain is severe the first twenty-four hours or longer. The pain is principally due to the *tension* of the inflamed sac which is distended with pus, and continues until the pus escapes either through a spontaneous opening through the anterior wall of the sac and the superjacent skin, or through an incision by the surgeon's knife. The earlier, then, such an incision is made the better.

The old method is to make the incision in about the place where a spontaneous opening would occur—that is, through the skin and anterior wall of the sac. Such an incision leaves a visible scar, however, though not so bad a one as is left by the healing of lacrymal fistula. The best site for the incision is between the caruncle and the inner canthus, where there is only the conjunctiva and the sac wall to pass through. A sharp Graefe's or Beer's knife should be used, pressing it boldly through into the distended sac, upon which slight pressure may be made at the same time with a finger of the other hand. There will be a copious escape of pus and a rapid relief of the pain.

After the abscess is opened in this way the patient should be directed to bathe the eye frequently with hot water. Internally, a tenth of a grain of sulphide of calcium every three hours may be given with benefit. After a few days the swelling will have so far subsided that the canaliculus can be slit up and an Agnew-Weber knife passed down through into the nose, dividing the stricture or strictures that dammed up the flow of tears previous to the acute dacryocystitis. After this, probes should be passed at longer or shorter intervals until the parts are well, and there is no longer any overflow of tears.

It is well *not* to use a sugar-of-lead wash in these cases. Within a year I have removed lead deposits from a cornea, the result of such treatment in a case of acute dacryocystitis. The eye-sight is generally permanently impaired by these lead deposits, a corneal opacity being left after their removal.

Of course, the use of antipyrine, quinine, and opiates, and other internal medication may be resorted to, if necessary, in conjunction with local treatment.

PRACTICAL ASEPSIS.

By G. W. CRILE, A. B., M. D.,

CLEVELAND, OHIO.

Antiseptics and asepsis have assumed such an important place in surgical procedure that anything looking to the practical side may not be amiss. Book-worm theories have no claim to utility, only so far as they lead to the improved results in practice. The laws of fungous life are independent of time or place, the means of its death or prevention uniform; consequently generalizations are admissible. It is not the intention of this paper to enter into a detailed presentation of special operations, but rather to offer a classified outline of methods daily pursued in hospital service and office practice. For convenience the subject will be outlined:

Supplies and Stores.—If surgical supplies are required in considerable quantities, a separate room should be prepared, as an aseptic, dustless receptacle for them. This room should be prepared by scrubbing it thoroughly with a 1-to-1,000 corrosive-chloride solution, followed by a fumigation of sulphur, closing the doors and windows meanwhile. The doors should be weather-stripped, the windows calked; conveniences for classification should be provided for by shelving arranged so as to be easily accessible for cleansing and disinfection. All dressings should be sealed in oiled paper, cotton kept in pound rolls and ounce packages, sublimated gauze in twenty-five-yard rolls and of full width; rollers of sublimated gauze of assorted sizes, a half to four inches wide and two to ten yards long, hermetically sealed in oiled paper; cotton rollers in boxes, silk and catgut in juniper-oil or alcohol. For daily office use, gauze, cotton, and rollers should be kept in cabinet specimen jars and sealed. The supplies should be placed in jars of such size that only that which is used from time to time is touched. One jar for cotton, one for gauze, and a third for rolled bandages, is a good arrangement. Nothing being touched that is not used, everything being always hermetically sealed, and convenience makes this the most practical and safe method of treating all kinds of wounds, septic and aseptic. Every surgeon finds an emergency bag indispensable. This should be made up as follows: Half a dozen each of sealed antiseptic gauze and plain cotton rollers; half a dozen ounce-packages of cotton; some oiled silk; a supply of catgut and silk in solution; needles; iodoform; two boxwood bottles, one filled with carbolic acid the other with chloroform; a few hæmostatics; a box of tablets of corrosive chloride of mercury, one grain each; an Esmarch bandage; a wide-mouthed bottle of assorted sizes of drainage-tubes; and some brandy. With this armamentarium the surgeon is prepared to meet any emergency.

Solutions.—In the selection of antiseptic agents simplicity and efficiency should be the guide. Sterilized water answers the purposes of asepsis. Three solutions answer every demand for antiseptics: (*a*) corrosive chloride of mercury, (*b*) carbolic acid, and (*c*) Thiersch's solution. The first is most conveniently made by solution of one-grain or ten-grain tablets of a strength to suit the operation, usually 1 to 1,000 up to 1 to 10,000. Carbolic acid is most conveniently kept in a five-per-cent. solution in large glass jars, and diluted as necessary. This solution should be made with some care by adding hot water supplemented by thorough agitation, which will insure emulsification of the globules. Thiersch's solution is made by taking two parts of salicylic acid, twelve of boric acid, and one thousand of hot water. Stating it in a general way, bichloride should be used in all cases where there are no positive contra-indications. These contra indications are (*a*) on metallic instruments, (*b*) in washing out large non-purulent cavities, such as the abdominal and large joints, (*c*) in the very young and in the aged. Carbolic-acid solution is used on instruments and in all cases where an irritating antiseptic is indicated. Thiersch's solution is used in washing out all large non-purulent cavities, such as have been mentioned as contra-indications to the use of bichloride. Salt solutions and sterilized water may be used when the wound is aseptic.

(*A*) *Preparation of Patient.*—With a nail-brush thoroughly scrub the field of operation with soap and water, shave the same area, then apply ether to dissolve the fatty substances and to remove the epidermis; now scrub with a 1-to-1,000 solution of bichloride, and finally cover that part of the patient, table, or clothing that might be touched by hand or instrument with towels wrung out of bichloride, and a piece of antiseptic gauze laid over the immediate field of operation and removed just before the initial incision is made.

(*B*) *Preparation of Operator and Assistants.*—The hands are the great sources of infection, and it is not necessary to say that they are too frequently the subject of criminal negligence. They should be scrubbed with soap and brush five minutes, the accumulations underneath their free margins cut or scraped away, then their dorsal aspect, especially where the nail and integument, meet should receive attention. This I am convinced is a neglected spot and liable to carry infection. Soap is again applied and the hands are scrubbed with a 1-to-1,000 solution. Finally, the hands are immersed in the same solution; this renders them fit for any service. It need hardly be added that the same care should be exercised in the preparation of the arms. The operating-gown is now donned and the head of the surgeon covered. He now approaches the operation with a conscientious modern preparation.

(*C*) *Accessories.*—Trays for instruments should be granite ware. Nothing will injure them, and there are no "Black Holes of Calcutta" around joints or handles. Bowls should be also granite ware for the same reason. There should be one for gauze pledgets, one for the hands, one for preparing the field of operation, and one for immersing towels. There should be rubber sheeting placed on the table, so as to drain off fluids into a catch pail. A douche pail should be hung at a convenient place, so that a douche may at any time be employed. If called upon to operate on short notice in a room outside of a hospital, remove all useless furniture and fabrics, but do not disturb the carpets, as this will open more sources of infection than the surgeon can cope with. Instead, simply immerse sheets of muslin in bichloride solutions and spread over the carpets, and, if necessary, drape the walls in like manner, and you can proceed with safety.

(*D*) *Instruments.*—All instruments are safe if boiled half an hour in a carbolic solution; they should then be wrapped up in a towel so that there is no friction. After using, they should be washed in warm water and brushed, to remove every particle of blood. During the operation they are immersed in a three-per-cent. solution of carbolic acid, and it should be a law *that every instrument should either be in use or in solution.*

(*E*) *Sponges.*—*No sponges are used, but, in their stead, pledgets of gauze, a douche,* or *an antiseptic spray.* Antiseptic gauze is cut into sizes suitable for the purposes of the operation, placed in a glass jar, and, as needed, transferred from the jar into the solution, squeezed out, and used as a sponge. These pledgets answer all the purposes of sponges, require none of their care, and avoid all their objectionable features. The sponge belongs to the pre-aseptic era of surgery.

(*F*) *Dressings.*—To facilitate their application, the dressings should be arranged in inverse order to that by which they are applied on a clean towel and folded up. When the operation is completed and the dressings are to be applied, there is no confusion and there are no omissions. The application of the dressings thus prepared consumes but a fragment of time.

(*G*) *Drainage.*—Drain-tubes should be of annealed glass, elastic perforated black rubber, or decalcified bone. The rubber tubing, of assorted sizes, should be kept in a wide-mouthed bottle, containing an antiseptic fluid. Glass tubes used in abdominal operations should be boiled. In their selection care should be exercised in obtaining annealed glass of considerable strength, or thermic changes will cause them to break.

(*H*) *Sutures.*—It matters little what kind of sutures are employed so long as they are aseptic. Catgut and silk answer ordinary purposes. In the matter of sutures, as in all other surgical supplies, simplicity and efficiency should be looked to; securing a great variety of suture materials as the fancy may suggest, lends only confusion in practice, and will, sooner or later, compromise antiseptic surgery. After having used various prepared sutures of catgut and silk, I have settled down to buying the raw material and preparing them myself after the following manner: Immerse the catgut in oil of juniper berry (ol. juniperi baccarum); transfer after twenty-four hours into absolute alcohol, to remain until used. Alcohol keeps catgut hard and firm yet flexible. If it is desirable to use less absorbable gut, first wash it in alcohol and then place it in a quart of five-per-cent. solution of carbolic acid, with thirty grains of dichromate of potassium. Forty-eight hours will produce a catgut that will resist the living tissues a week or more. To prepare silk: Boil it in carbolic solution an hour, and then transfer it to alcohol until used.

Every subsequent dressing should be made with the same care as the first. There is no longer any excuse for suppuration in cases in which asepsis is possible.

In the preparation for an operation, the surgeon should study, not only the field of operation and his patient, but himself and his environments. It should be his duty to make his appointment such that, in the midst of the anxiety of the operation, infection from a mislaid scalpel up to the infectious touch of soiled hands should be at least only a remote probability. Perfect asepsis and perfect results sustain to each other the relation of cause and effect. Every operation should be a panorama of bacteriological tenets.

PNEUMOTHORAX

OCCURRING IN THE COURSE OF PHTHISIS;

RECOVERY.

By HERBERT UPHAM WILLIAMS, M.D.,
HOUSE PHYSICIAN, BUFFALO GENERAL HOSPITAL.

WILLIAM H., twenty-nine years of age, a carpenter, was in the Buffalo General Hospital for two weeks during June, 1889. At that time pulmonary tuberculosis was diagnosticated, although physical examination gave negative results. On Dec. 26, 1889, at 5 P. M., he was brought in by the hospital ambulance, stating that he had swallowed an overdose of medicine, consisting of licorice, senega, and oil of tar, after which he had a violent fit of coughing. His general condition was evidently serious. Emetics failing, the stomach was evacuated with the tube; stimulants were given hypodermically.

The patient grew rapidly worse. His whole body was now carefully scrutinized. After physical examination, pneumothorax of the right side was diagnosticated. At this time the temperature was 101·5° F., pulse 180 and very feeble; respiration 55, and extremely labored, the patient being obliged to sit up to catch his breath; skin slightly cyanotic, and covered with a profuse perspiration; extremities cold; and general appearance one of intense distress. It was evident that he would die soon if not relieved. At 7 P. M. Dr. Cary, attending physician to the hospital, introduced a small dome trocar between the seventh and eighth ribs, behind, and three inches to the right of the median line. This point was chosen as being free from thickening or adhesions of the pleura, which were indicated in several spots by slight dullness and vocal fremitus. To this trocar the Allen surgical pump was connected. The loose end of the rubber tube was immersed in a basin full of a saturated solution of hydronaphthol. Air issued freely from the tube as soon as the pump was turned. Several minutes were required to empty the chest. A short time after, good respiratory sounds were heard over the whole right side, and the respirations were 22 per minute. The pleural cavity refilled with air, however, in about ten minutes, respiration again becoming very difficult, so that to be of any avail the pumping had to be done almost continuously. If omitted for a time, breathing became much more labored, and the patient begged to have the pump turned.

Dec. 27th.—At 5 A. M. the trocar slipped out. It was put back through the original opening. At 6 P. M. subcutaneous emphysema was noticed over an area of several inches surrounding the puncture; A. M., temperature 98°, pulse 100, respiration 35; P. M., temperature 101°, pulse 104, respiration 40.

28th.—This morning small quantities of cloudy fluid issued from the tube at times. Patient complained of pain on breathing or coughing. At midnight the trocar became clogged. It was removed, and the puncture covered with adhesive plaster. Another was inserted an inch farther to the right. Subcutaneous emphysema more extensive; A. M., temperature 100·5°, pulse 110, respiration 35; P. M., temperature 98°, pulse 100, respiration 40.

29th.—Discharge of cloudy fluid increasing. Pleural cavity washed with boric-acid solution, which caused great distress. Air seemed to come less freely through the pump. Cough troublesome; slight muco-purulent expectoration. Patient complained of severe pain on breathing deeply or coughing. Friction sounds heard over apex of right lung; A. M., temperature 98°, pulse 150, respiration 55; P. M., temperature 98°, pulse 140, respiration 50. About 9.30 P. M. patient had a severe chill, after which his temperature was 104°, pulse 180, respiration 65.

30th.—Air came less freely from tube; increasing amount of cloudy fluid discharged. Continued to complain of pain on breathing. Found friction sounds present over entire right side, but especially at the apex; A. M., temperature 98°, pulse 125, respiration 35; P. M., temperature 100°, pulse 140, respiration 40.

31st, 5 A. M.—Air ceased to come on pumping, so it was discontinued, having been kept up four days and nights and ten hours. Trocar removed at 9 A. M., and opening closed with rubber plaster. Good breathing over nearly the entire right lung. Friction sounds still marked; dullness, lack of respiratory murmur, and egophony at the base. Subcutaneous emphysema diminished; A. M., temperature 102°, pulse 130, respiration 40; P. M., temperature 101°, pulse 140, respiration 40.

From this time on the patient had good respiratory sounds over the right lung. On January 2d he was up and walking about the ward. He continued to cough, and expectorated profusely muco-purulent material. His temperature ranged from 99° to 103°, showing a pretty constant morning decline and evening rise; pulse 120 to 150; respiration 30 to 45. He died, having all the symptoms of advanced phthisis, on January 9th, having been in the hospital fourteen days, and having lived ten days after the pumping was discontinued.

An autopsy was made twenty-four hours later by Dr. Bergtold, assistant pathologist to the hospital. The following extract is taken from the notes made upon the same:

"Left lung bound down by strong adhesions, particularly at upper lobe. Pleural cavity contained four ounces of clear serum. Lung weighed thirty-seven ounces and a half. On the surface were numerous areas of extravesicular emphysema and scars of old adhesions. Upper lobe completely solidified with diffuse tubercular tissue; cavity of the size of a walnut, with several smaller ones, at apex. Lower lobe in a state of solidification, being the seat of diffuse miliary tuberculosis.

"Right lung bound down universally by firm adhesions; pleural cavity contained about one pint of clear serum; posteriorly a large amount of fresh lymph; firm interlobar adhesions. Weight of lung, forty-two ounces. Upper lobe nearly solid from tubercular deposition, somewhat œdematous. Lower lobe nearly free from tubercle but engorged and œdematous. No evidences of pneumothorax, nor of any solution of continuity in the lung tissue. The punctures made by the needles were included in the adhesions."

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RENAL CALCULUS.

Nephrolithotomy is one of the advances of modern surgery that have outstripped the art of diagnosis, so that to-day the removal of a renal calculus has become a simpler matter than the diagnosis of its existence. Mr. Jacobson makes this statement at the beginning of an article in the British Medical Journal, in which he contributes some valuable points regarding both the diagnosis and the operation.

Of the symptoms and conditions which justify the operation he considers hæmaturia of long standing to be the most important. This hæmaturia is often repeated, frequently increased by exercise, rarely profuse and never producing anæmia, and the blood is always mixed intimately with the urine. But, while this symptom is very important, it can not always be depended on. It may be absent from first to last, or it may be temporarily present in the early stages, or it may be present and be due to a variety of other causes. Next he considers pain and tenderness, in the loin and elsewhere. Two varieties exist—a fixed lumbar and a radiating pain. The fixed pain in the loins is usually of a dull, gnawing, pricking, or aching character, and is increased by exercise. It induces a twisting from side to side or a flexing of the body, and is sometimes relieved by the pressure of the hand. The radiating pain may be found in the testis, in the region of the small sciatic nerve, in the calf or foot, and in the intestine, simulating colic. This pain may be very misleading, especially if it occurs without hæmaturia. The pain of renal calculus is frequently aggravated during the night. The cause of this exacerbation is not definitely settled, and Mr. Jacobson suggests that it may be the concentration of urine at night and the consequent deposit of crystals. The family and previous personal history, habitat, habits, and frequency of micturition should each be considered, the presence of any other condition in the rest of the genito-urinary tract carefully excluded, and previous treatment have failed to give relief.

Among the chief conditions which simulate renal calculus are lithiasis, oxaluria, tubercular nephritis, non-tubercular pyelitis, movable and aching kidney (especially if associated with neuralgic conditions), disease in contiguous organs, spinal disease, interstitial shrinking nephritis, and malignant disease of the kidney, especially of its pelvis and of the last dorsal nerve. The diagnosis between renal calculus and lithiasis or oxaluria may be made by watching the result of treatment, which only gives relief in the one case, but clears up the other. In tubercular nephritis pyuria is usually present early, and the blood is found in a thin layer over the pus, or in small thready clots. A careful examination of the urine will reveal caseous matter and sometimes *débris* of connective tissue and the *Bacillus tuberculoseos* in the sediment. In these cases an early exploration of the kidney is advisable to clear up the diagnosis, followed by nephrectomy if the kidney is found to be the site of so fatal a disease.

Regarding the operation itself, several practical points are given. To count the ribs is not an unimportant detail, as is proved by the fact that the pleural cavity has been opened, with a fatal result, in an attempt to perform this operation upon a patient whose last rib was rudimentary. A sufficiently free incision to allow of easy access to the organ should always be made. In a stout patient with a deep loin this may be done by means of König's incision, or by converting the usual lumbar into a T-shaped incision. The colon, which is often distended with flatus, should be packed away with sponges. Search for the stone should be made by palpation of the anterior and posterior surfaces of the kidney, by systematic acupuncture of the calices, and, if these fail, by opening and sounding the kidney. To draw the kidney out of the wound as far as possible and repeat the examination if the stone can not be felt by palpation of the organ *in situ* appears somewhat hazardous, and, although this procedure is recommended, it is suggested that a careful watch be kept on the pulse.

In a case of multiple calculus in a suppurating, damaged kidney, nephrectomy should not be performed until after thorough drainage. By this delay additional shock and loss of blood are avoided, the condition of the opposite kidney may be determined more accurately, the bulk of the viscus may be lessened, and, though a source of discomfort if a sinus persists, it may do very important work. Finally, if the kidney has been much disturbed, it should be stitched in place. Without this precaution the successful treatment of one renal trouble may result in the establishment of another almost equally unfortunate.

THE HEALTH OF GREAT BRITAIN.

A recent issue of the Lancet summarizes some of the results given in the fifty-first annual report of the Registrar-General of Great Britain. In this volume the vital statistics of 1888 are reviewed and dealt with in detail. Attention is called to the fact that the death-rate was in that year as low as 17·8 in a 1,000, being the lowest death rate yet recorded, the next lowest being 18·8, the rate recorded in the year immediately preceding. The Registrar-General now reports for 1889 that the death-rate of that year was not quite so low, being 17·9 in a 1,000, exceeding by a fraction the death-rate of 1888. For the nine years 1881 to 1889 the death-rate was lower than the rate recorded in any year prior to 1881. The mean annual death-rate in those nine years was 18·9 in a 1,000, being no less than 2·5 below the mean rate in any preceding decennium. The Registrar-General points out that 600,000 more persons were alive in England and Wales at the end of last year than there would have been if the rate of mortality in the nine years 1881 to 1889 had equaled that which prevailed in the ten years 1871 to 1880.

This reduction in the death-rate, it would appear at first sight, must have caused an exceptionally large addition to the population since the date of the last census. It is a fact, however, that the decline in the birth rate since 1881 has been still greater than that in the death-rate, and that the excess of births over deaths in the nine years has been slightly lower than it was in the ten years 1871 to 1880. There is no doubt that improved sanitary conditions alone account for a considerable proportion of the lives saved. The mean annual death rate from zymotic diseases, which had been 4·15 and 3·38 in a 1,000 in the two decennial periods 1861 to 1870 and 1871 to 1880, fell to 2·33 in the nine years 1881 to 1889. Only 28 fatal cases of small-pox were registered in England and Wales during the year (the total population being 28,628,804, estimated to the middle of 1888). The annual death-rate from "fever" (typhus, enteric, or ill defined), which was 0·90 in a 1,000 during the twenty years 1851 to 1870, fell to 0·49 in 1871 to 1880, and further declined to 0·24 in the first nine years of the current decennium. Infant mortality, too, shows a well-marked reduction; measured by the proportion of deaths of infants under one year old to registered births, it was 144 in a 1,000 in 1889; although above the exceptionally low rate in 1888, when the cold and damp summer caused a marked decline of diarrhœa mortality, it was considerably below the mean rate in recent years.

These figures show that there is a gradual but steady decrease in the mortality from preventable disease, and illustrate in a marked degree the benefits a country can derive from a system of registration so complete as that of Great Britain.

MINOR PARAGRAPHS.

AN ENORMOUS ECHINOCOCCUS CYST.

The Australian Medical Gazette has a report by Dr. John D. Thomas, of the Adelaide Hospital, of a successful operation for the removal of a large hydatid cyst of the liver. The patient was a man of twenty-five years, who gave a history of slow growth in the swelling of his abdomen which closely resembled what is observed in an advanced stage of ascites. An exploratory puncture yielded a little pus-like fluid, but the cannula was soon blocked. The operation was begun by an incision three inches in length, below the umbilicus, in the median line. The peritonæum was found to be unusually tough and dense, rendered so by continuous inflammatory adhesions between it and the fibrous capsule of the parasite. The tumor was freely incised, and from it was removed two thirds of a bucketful of pus-like matter and cystic contents. The parent-cyst was found to be broken up into fragments and stained a deep green, killed probably by an influx of bile some time prior to the operation. The daughter-cysts were partly dead and partly living, and must have numbered several hundreds. When the removal of the parasitic material had been completed the resulting cavity looked like an abdomen from which all the viscera had been removed, so great had been the pressure upon and displacement of organs caused by the enormous cystic growth. The starting-point of the tumor was located at the lower side of the liver, whence it had grown downward through the abdomen and filled the pelvis. The stomach and the small intestines were seen crowded into the region of the spleen. The fibrous capsule, being adherent posteriorly and anteriorly to the walls of the abdomen, effected a complete concealment of the cæcum, colon, and rectum. During the process of convalescence the aspect of the abdominal wall was so unusual as to be but little short of the grotesque, since the stomach and intestines gradually protruded along the lower margin of the ribs, while the lower wall hugged the lumbar spine and then rose sharply to the pubes. The main difficulty in the after-treatment arose from inadequate drainage of the most dependent points of the sac. Some evening pyrexia was caused by this complication, for which a cleansing of the cavity with thymol injections was resorted to. The patient was discharged cured in twenty-four days after the operation; the last drainage-tube was not removed until about two months after that. The man has been seen frequently since his discharge from the hospital, and has manifestly improved in health.

THE SUBCUTICULAR SUTURE.

This is the name given by Mr. Kendal Franks to a method of suturing wounds, especially small wounds about the neck and face, where it is desirable, for cosmetic effect, to leave as little trace as possible in the form of a scar. The suture is a continuous one, and fine catgut must be used and a fine curved needle. The needle must be passed horizontally, and at the cut edge of the wound, not at a distance from the edge, as in ordinary suturing. The author's description, in the British Medical Journal, is as follows: "I begin at a point about a quarter of an inch from the upper angle of the wound. The needle is passed horizontally underneath the epidermis of the skin into the cutis vera, and emerges again from the cutis vera at the angle of the wound itself. It is then passed in a similar manner into the cutis vera alone of the opposite side of the wound, beginning at the extreme angle and emerging at a point a quarter of an inch from it. The catgut is drawn through so as to leave just enough at the first point of entrance to enable it to be tied to the portion of the suture which holds the needle. This forms a starting-point. The needle is again inserted horizontally into the true skin, beginning immediately below the first point of entrance, and comes out again a quarter of an inch lower down; it is then passed similarly into the other edge of the wound at a point corresponding exactly to the last point of emergence on the opposite side, being brought out again a quarter of an inch lower down. This method is continued until the lower angle of the wound is reached." Of course, as the suture is tightened the cutaneous edges of the wound will be brought into close and even apposition. An experience of several years with this method, especially in connection with wounds made for the removal of scrofulous glands in the neck, has satisfied the author of its utility. It also has the indorsement of such well-known men as Dr. Clifford Allbutt and Mr. Pridgin Teale. It is but another form of buried suture, and certainly must require very delicate manipulation, a very fine needle, and aseptic catgut in order to insure a successful result. It is well conceived, and does away not only with the blemish of a linear scar in a conspicuous place, but also with the equal unsightliness of stitch-marks. As the author remarks, this is not a slight consideration for women or for men with whom occupation or fashion interferes with their allowing the hair to grow in the vicinity of such disfigurements.

THE REVISION OF THE GERMAN PHARMACOPŒIA.

The editorial commission having charge of the forthcoming (third) edition of the German Pharmacopœia has, according to the Pharmaceutische Zeitung, of Berlin, decided not to admit the following preparations, which are among the newer ones of more or less repute: Anthrarobin, apiol, boroglyceride, cannabin, chloralurethane, creolin, eucalyptol, the fluid extracts of *Cascara sagrada*, gelseminm, and *Grindelia robusta*, guaiacol, hashcesh, ichthyol, iodol, lanolin, mercury benzoate and peptonate, methylal, nitroglycerin, peptone, saccharin, somnal, the preparations of sozoiodol, strophanthin, and terebine. Among the preparations official in the present Pharmacopœia, the following are some that will be excluded: Aloes, antidotum arsenici, aqua cinnamomi, camphora, cannabis indica, codeinum, extractum aconiti tuberum, extractum belladonnæ, extractum cannabis, ferrum iodidum, ferrum redactum, hirudines, hydrargyri iodidum, lactucarium, laminaria, linimentum terebinthinatum, liquor ferri persulphatis, sodii benzoas, sodii chloridum, spiritus juniperi, spiritus lavandulæ, sulphur sublimatum, tinctura arnici, tinctura capsici, and tinctura myrrhæ. It is also said that the Latin language is to be excluded from the new edition, and that the book will be known as the Deutsches Arzneibuch.

HYDRASTININE IN GYNÆCOLOGY.

In the February number of the Therapeutic Gazette Dr. Edmund Falk, of Berlin, gives an account of this new alkaloid, $C_{11}H_{13}NO_3$, which is formed, along with opianic acid, by gently heating a mixture of hydrastine and nitric acid and precipitating with an alkali. The alkaloid itself is perfectly white and contains a molecule of water of crystallization, but its salts are free from it and most of them are readily soluble in water. The physiological action of the drug differs, it is said, very materially from that of hydrastine. It is not a spinal irritant, and is a heart stimulant instead of a paralyzer of that organ; it also sustains persistent contractility of the vascular system without the paralysis which has been known to follow the use of hydrastine. Dr. Falk has made repeated demonstrations with hydrastinine, and suggests it as a remedy in the treatment of uterine hæmorrhages as being much more prompt and sustained in its action than ergotine. Report is made of twenty-six cases systematically and successfully treated with it. The twenty-six patients received in all four hundred injections of hydrastinine hydrochloride in the form of a solution varying from five to ten per cent. There was no noticeable local irritation following these injections at any time. The patients were unanimous as to the painlessness of the applications and the freedom from that subsequent discomfort which so often arises from the use of ergotine. The discoverer is making further investigations, the results of which are to appear in due course in the Archiv für Gynäkologie.

THE BROMIDES AND MENSTRUATION IN EPILEPTIC WOMEN.

A recent issue of the Centralblatt für klinische Medizin contains a paragraph by Dr. Ernst, of Vienna, on the possible influence which the continued administration of the bromides to women suffering from epilepsy may exert in retarding the catamenial period. After carefully observing three patients to whom were given heroic doses of sodium bromide for epilepsy, Ernst noticed that the return of the menstrual flow was delayed for from eight to fourteen days, and in one case for three months. The observer is still in doubt, however, as to whether this phenomenon was attributable to the drug or to the epileptic condition itself.

A NEW INDEX MEDICUS IN FRENCH.

According to the British Medical Journal, a new bibliographical quarterly journal is announced to appear on April 1st, under the direction of Dr. Rouvier of the French Faculty of Medicine at Beyrout, Syria. It will bear the title of Revue internationale de bibliographie médicale, pharmaceutique et vétérinaire, and it is designed to supply a complete index of current medical literature.

THE PHYSIOLOGY OF THE FIRST BREATH.

The Centralblatt für Gynäkologie summarizes from the Zeitschrift für Biologie an account of researches recently made by G. Heinricius, of Helsingfors, into the physiological phenomena which pertain to the first effort at inspiration in infants, and the reasons which sometimes cause this act to produce sudden and fatal asphyxia. In addition to experiments by himself, the author reviews the inferences of others, and comes to the conclusion that the question is still open to controversy, and that wider investigation must yet be made before arriving at any definite conclusion. This leaves us confronted with the paradox that, while man dies for want of breath, he may also die from taking it.

THE TORONTO UNIVERSITY MEDICAL SOCIETY.

The Medical Society of the University of Toronto has invited Dr. E. C. Seguin, of Providence, R. I., to give a series of lectures some time during the current month. The society proposes to have a short course of lectures every year by eminent men on subjects of the higher order of scientific importance. This society has manifested an unusual degree of energy and spirit in several directions, and as a result has grown in numbers and usefulness. Dr. Seguin's lectures will be published in this Journal.

A NEW TEST FOR ALBUMIN IN URINE.

Dr. D. Meredith Reese reports in the February issue of the Johns Hopkins Hospital Bulletin on a test series of over eighty cases in the course of an investigation as to the applicability of trichloracetic acid as a test for albumin in the urine. This test is a new one, the first prominent mention that was made of it in English literature being that made in the British Medical Journal for November 16, 1889. The reagent may be used either as a solid or as a liquid. According to Dr. Reese, the tests by this substance for albumin in urine were most delicate, the reaction is prompt, the manipulation is not difficult, and no discoloration or colored zone is produced in the specimens.

A MUNIFICENT FRIEND OF THE SICK.

The name of the donor of the large sum of a hundred thousand pounds for a convalescent home near London has come to light, notwithstanding his wishes to keep in the background; his name is Peter Reid. He has already been prominent for his generous interest in hospitals and other charitable institutions, but his last grand gift to the sick poor of London was announced as from an anonymous source in January last.

THE MANAGEMENT OF BREECH DELIVERIES.

At a meeting of the Society of the Alumni of Charity Hospital, held on the 11th inst., Dr. Edward L. Partridge showed a specimen illustrating one of the dangers incident to the use of traction in breech deliveries—that of separation of the proximal epiphysis of the femur. He urged the necessity of making the labor as slow as possible up to the time of the engagement of the head, and the superiority of expression over traction after that as not interfering with proper flexion of the head. He thought that in the great majority of cases there was no occasion to hasten the labor until the trunk was expelled as far as the umbilicus, but, of course, compression of the funis would call for haste at any stage.

THE PATHOLOGY OF SEBORRHŒA.

At the same meeting Dr. George Thomas Jackson read a paper on seborrhœa. He could not agree with those who had lately put forward the statement that seborrhœa was due to disease of the sweat-glands and not of the sebaceous follicles. In the treatment of baldness consequent on seborrhœa he highly recommended the use of sulphur.

NEWSPAPER CHEMISTRY.

Newspaper medicine is familiar to our readers, but perhaps that can not be said of newspaper chemistry, probably because chemistry is not a subject about which everybody thinks he knows a good deal. A contribution to such literature was lately made by the Paris correspondent of the London Daily Telegraph, who mentioned "phosphate of chalk," "carbonate of refined potash," and "sulphate of chalk."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 18, 1890:

DISEASES.	Week ending Mar. 11.		Week ending Mar. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	2	8	2
Scarlet fever	84	10	90	18
Cerebro-spinal meningitis	3	3	4	4
Measles	170	10	145	11
Diphtheria	111	43	95	28
Varicella	6	0	0	0

The Memorial Hospital at Scranton.—It has been authoritatively announced to the managers of the Moses Taylor Memorial Hospital at Scranton, Pa., that it is the purpose of Mrs. Taylor to contribute an endowment fund of $250,000, the income of which shall be used for the maintenance of the hospital. Her son, Mr. George Taylor, has given $50,000 for immediate use upon an unfinished part of the buildings. A daughter, Mrs. Pyne, is already represented by a gift of $100,000 for construction purposes. Under the will of the late Moses Taylor, a bequest for hospital purposes amounting to $250,000 was made, making a grand total of $650,000 from the family, given with the special object of meeting the needs of the employees of the large railroad and mining corporations which have Scranton as their most available center.

The Society of the Alumni of Bellevue Hospital will hold meetings on April 8th, 9th, and 10th, in New York, in the form of a decennial reunion. Clinics will be held at the hospital, papers will be read by members at the Mott Memorial Library, and a banquet will be given at the Hotel Brunswick on the evening of the second day. All the former internes have received invitations to attend and participate in what is designed to be a grand reunion. Dr. R. J. Carlisle, of No. 58 West Twenty-fifth Street, will give further information concerning tickets, etc.

The Long Island College Hospital.—The annual commencement of this school was held on March 13th, in Brooklyn. A graduating class of fifty-five received diplomas in medicine. The Hoagland Laboratory, an accessory of the school, has just received an additional donation of $50,000 from Dr. Hoagland, its founder.

The New York Ophthalmological Society.—The following-named gentlemen have been elected officers for the ensuing year: Dr. Samuel B. St. John, of Hartford, Conn., president; Dr. H. S. Oppenheimer, vice-president; Dr. John E. Weeks, secretary and treasurer; Dr. Charles E. Hackley, Dr. Charles S. Bull, and Dr. D. B. St. John Roosa, committee on admissions.

The Society of the Alumni of Charity Hospital.—It is announced that at the meeting of April 8th Dr. C. W. Stimson will demonstrate the use of the phonograph as an acoumeter, and suggest a standard metric scale for testing, recording, and comparing the acuteness of hearing.

The New York Post-graduate Medical School and Hospital.—The following additions have been made to the faculty: Dr. Charles B. Kelsey, professor of rectal diseases; Dr. Charles H. Knight, professor of laryngology and rhinology; Dr. Reynold W. Wilcox, professor of clinical medicine; and Dr. S. Lustgarten, formerly a Privat Docent in the University of Vienna, instructor in syphilis and dermatology.

The Portrait of a Surgeon given to a Church.—The London Medical Recorder states that a grateful patient of Professor Billroth's has made a present to a church, in the neighborhood of Vienna, of a portrait of the distinguished surgeon, delineating him as he appears in his operating-room.

Change of Address.—Dr. Edward J. Lorenze, to No. 740 Lexington Avenue.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 9 to March 15, 1890:*

Davis, W. B., Captain and Assistant Surgeon. The leave of absence for seven days granted by orders No. 9, Fort Preble, Maine, March 7, 1890, is hereby extended ten days. Par. 6, S. O. 58, Division of the Atlantic, March 12, 1890.

Ebert, Rudolph G., Captain and Assistant Surgeon, now on sick leave of absence, is relieved from his present station, Fort Pembina, North Dakota, by direction of the Secretary of War, and will report in person to the commanding officer, Angel Island, California, for duty at that station. Par. 1, S. O. 57, A. G. O., March 10, 1890.

Powell, Junius L., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Supply, Indian Territory, to take effect at the expiration of his present leave of absence, and will report in person to the commanding officer, Fort Randall, South Dakota, for duty at that post, and by letter to the commanding general, Department of Dakota. Par. 8, S. O. 56, A. G. O., March 8, 1890.

Morris, Edward R., First Lieutenant and Assistant Surgeon, Fort Shaw, Montana, is granted leave of absence for one month. Par. 1, S. O. 28, Department of Dakota, March 7, 1890.

Society Meetings for the Coming Week:

Monday, *March 24th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *March 25th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Society of the County of Lewis (quarterly), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *March 26th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society; Philadelphia County Medical Society.

Thursday, *March 27th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *March 28th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Letters to the Editor.

CHANCRE OF THE CONJUNCTIVA.

Philadelphia, *March 6, 1890.*

To the Editor of the New York Medical Journal:

Sir: Dr. F. W. Marlow contributes to the Journal, under date of March 1, 1890, an interesting account of a primary chancre of the conjunctiva, in which he states: "A fair number of cases of Hunterian chancre of the lid margin have been reported, but very few in which the sore has been situated on more remote portions of the conjunctiva. Nettleship has reported two cases, one of which I had the good fortune to see, and Wherry and Adams each one in which the chancre was situated on the palpebral conjunctiva near the posterior margin of the tarsal cartilage of the upper lid. Beyond these I am aware of no reported cases." In this connection the following facts may be of interest:

In Dr. David DeBeck's monograph on Hard Chancres of the Eyelids and Conjunctiva the position of the ulcers in the recorded cases which he had collected up to that date (1886) is given as follows:

On the cutaneous surfaces of the lids............	4
Lower lid margin, inner surface, and *cul-de-sac*....	35
At the inner angle............................	25
Upper lid and *cul-de-sac*.........................	23
Ocular conjunctiva............................	6

Dr. Alexander (Syphilis und Auge, p. 17, Wiesbaden, 1889), after pointing out that the specific ulcers usually appear on the free border of the lid and its commissure, and from there spread out to the conjunctival surface, says: "Nevertheless, cases of the primary disease which succeed in developing directly on the conjunctiva are known. Soft chancres are rare. The younger Sichel mentions only one example, described by Després, while several cases of hard conjunctival chancres are noticed in literature. First of all I will mention the two cases of Adams and of Denti. If the diagnosis in the case of Adams is doubtful, whether a primary affection or an ulcerated gumma, no doubt attaches to Denti's case. . . . For the most part the initial lesion is found on the retrotarsal fold of the under lid. In addition to the two cases of Adams and Denti, already mentioned, belong the four cases of Desmarrés, Fournier, Michel, and Bull; rarely the ulcer is situated on the inner surface of the tarsus (two cases of Sturgis and Szokalski), as also on the conjunctiva bulbi (three cases of Wecker and Savy). The conjunctiva of the upper lid was also found as the situation of an initial lesion by von Brinken, and finally indurations have been seen by Boucheron and Taylor on the plica semilunaris."

No doubt Professor Marlow, in his analysis of the literature, has found reason to exclude these cases as not sufficiently analogous to his own, but they have seemed to me to be interesting in connection with his account of this rare affection of the conjunctiva. G. E. de Schweinitz, M. D.

DR. SEIBERT'S INFANT-FEEDER.

122 East Seventeenth Street, *March 15, 1890.*

To the Editor of the New York Medical Journal:

Sir: In announcing the sale of the infant-feeder and sterilizer devised by me (*vide* New York Medical Journal, February 15, 1890), the firm of Eimer & Amend made use of the name of Dr. A. Jacobi as indorsing the same. Permit me to state here that Dr. Jacobi had given no permission for the use of his name. In December last Dr. Jacobi had written a letter to this firm at my request, therein giving a favorable opinion regarding my device, and this led me to believe that in using Dr. Jacobi's good opinion so publicly no wrongdoing was involved, especially as the apparatus was devised, constructed, and sold for the particular benefit of the poorer classes, and as I had no pecuniary interest in its sale whatsoever. As the firm entirely depended upon my opinion, I necessarily am the only one to blame in this matter. By giving this statement a place in your esteemed Journal, you will greatly oblige

A. Seibert, M. D.

Proceedings of Societies.

THE SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

Meeting of January 8, 1890.

The Vice-President, Dr. Parker Syms, in the Chair.

Abscess of the Brain in its Relation to Contusion.—Dr. Charles Phelps read a paper and illustrated it by specimens. (To be published.)

Dr. M. A. Starr said that the subject of cerebral abscess certainly needed a good deal of elucidation, and the case just reported was especially interesting on account of there being apparently no connection between the solution of continuity in the skull and the abscess cavity. The majority of cases of abscess in the brain were undoubtedly due directly to trauma and to the entrance of pyogenic bacteria into the brain. He had collected from American sources a series of twenty-three cases of cerebral abscess, in thirteen of which there was some direct injury, such as a stab or bullet wound, involving both scalp and bone; in three of the cases there were post-mortem evidences of necrosis of the bone from caries or from inflammation of the periosteum, especially in the region of the nose; and in two cases the development of the abscesses undoubtedly had some causal connection with an operation for exostosis, in which the bone had been laid bare and the trephine applied. Thus, in eighteen out of the twenty-three cases the conditions were such as to admit of access of bacteria to the brain; and in all these cases the brain abscess communicated with the membranes. From this record, it would seem that the case described by Dr. Phelps was quite a rarity. It would be interesting to know whether the occurrence of such abscesses could be explained by *contre-coup* or by the access of pyogenic bacteria through the lymphatic spaces or through the vessels. It was certainly remarkable that in only three out of twenty-three cases was it impossible to trace some connection between the brain abscess and the external world.

Another thought suggested by the paper was the frequency with which the symptoms of cerebral abscess remained latent and the patient remained in apparent health for periods of many months, and then suddenly developed acute symptoms which speedily ended in death. The duration of the abscesses in the speaker's collection was much longer than in the case just reported, and the immediate cause of death was usually rupture of the abscess into the ventricles or into the meninges. It was unfortunate that the local symptoms of brain disease in cases of abscess were less definite and less reliable than in the cases of tumor. The latter class of cases presented such a characteristic picture that a considerable percentage were recognized sufficiently early to be relieved by operation. This was the experience of von Bergmann, of Berlin, who in his last monograph showed that operations for brain abscess had to be undertaken on account of the surgical indications rather than because of the existence of neurological symptoms. If the neurological symptoms were more reliable and definite in the early part of the case, a prompt application of the trephine might prevent much destruction of brain tissue. Inasmuch as the diagnosis was to be made from the surgical standpoint, it would seem advisable to trephine even in cases of suspected fracture of the skull, and in many cases where there were no positive indications for this operation; for it was much better to trephine antiseptically than to refrain from operation and allow wandering germs to find access to the brain through some small crevice. The situation of the abscess in Dr. Phelps's case was such that its lower portion might interfere with the visual tract passing upward from the optic thalamus. The history showed that there were no spontaneous evidences of disturbed vision, but so many cases escaped recognition, unless the visual fields had been carefully tested, that this point in the case could not be considered as definitely settled.

Dr. J. W. S. Gouley related the history of a case of brain abscess following contusion. In 1861, at the battle of Bull Run, a mounted officer had been struck down, presumably by a spent ball, which took off the button of his cap on the left side, and a little above and in front of the left ear, making only a slight scalp wound. He was brought to a military hospital in Washington in a state of semi-consciousness. The next day he was found to have complete right hemiplegia, and at about the same time aphasia developed. The hemiplegia continued for about a month, when the patient was seized with slight rigors and died about a week later. The autopsy showed over the seat of injury an extensive hæmorrhage in the form of a thin layer of blood, becoming thicker as it passed into the middle fossa of the cranium on that side. There were some thousands of minute subarachnoid hæmorrhages varying from a millimetre to a centimetre in diameter. At the point of injury adhesions had formed, and, when these were separated, some pus escaped from an abscess cavity which probably contained about an ounce of pus, and which was situated about an eighth of an inch within the brain. No diagnosis of abscess had been made, although suppuration had been suspected. It was a question whether the hæmorrhage was due entirely to the blow from the spent ball, or whether it was partly the result of the fall from the horse.

Dr. R. T. Morris did not see any occasion for surprise at an abscess developing at any point after an injury, for, if there was exuded lymph or a blood-clot at any point, it would seem just as likely for traveling pyogenic bacilli to be lodged there as elsewhere.

Dr. W. R. Townsend had observed a case of cerebral abscess without apparent solution of continuity. It had occurred in a young man about twenty years of age who had been struck over the left parietal bone by some instrument. He was unconscious for a short time, but there were no evidences of fracture of the skull, and the next day all cerebral symptoms had disappeared, and the case was supposed to be one of concussion. He was able to walk the next day over two miles to the speaker's office; but four days after the injury he had a convulsion most marked on the right side. An operation was at once advised and performed. Over the seat of the injury the external table was apparently intact, but the trephine revealed a small fracture of the inner table and a laceration of the dura mater by a small spiculum of bone. About fifteen or twenty drops of pus escaped from the brain at this time. Antiseptic irrigations and dressings were employed, but the man died four days later, his death being hastened by the inability to nourish him properly even with a tube, on account of paralysis of the throat.

Dr. W. R. Ballou recalled a case that he had observed in Dr. Fluhrer's service at Bellevue Hospital. A German, about thirty-five years of age, had attempted to commit suicide by shooting himself at the junction of the right parietal bone with the frontal at about its center. The patient was transferred to Bellevue from another hospital, so that it was about ten days after the injury when he came under Dr. Fluhrer's care. The bullet was detected by a probe, but it was so firmly attached that it was thought to be encapsulated, and was therefore not disturbed. The wound had healed well and without elevation of temperature. About ten days later there was some fever and slight redness about the wound, which was accordingly reopened and a larger opening made in the skull. This had revealed an abscess cavity containing about three or four drachms of pus, and extending inward about an inch and a half. It was thoroughly irrigated with a 1-to-1,000 bichloride solution and a drainage-tube inserted. The discharge had continued for a week or ten days, but the man had finally recovered, and about a year later the speaker had found him in good physical condition, but somewhat eccentric and unable to work.

Dr. S. Lewengood recalled a case which emphasized the tendency of these cases to remain latent for some time, and also showed how medico-legal complications might thereby arise. A man had received a bullet wound from a twenty-two caliber pistol about an inch above the left eye. No fracture was found, and the bullet was imbedded in the periosteum. It was extracted and the wound dressed. The patient then went on a spree for about a month, when meningeal symptoms developed, and he died. The autopsy showed, in addition to the lesions of meningitis, a fracture of the inner table of the skull in the occipital region, evidently caused by *contre-coup*, and a contusion of the brain substance with an abscess on the surface containing two or three drachms of pus. At the trial the assailant had escaped on the ground that death might have been caused by an alcoholic meningitis.

Dr. Phelps said, in closing the discussion, that in both the primary and secondary operations the dura mater was very carefully examined, and in the second instance also the surface of the brain; and he was quite positive there was no lesion either of the brain or dura mater. He regretted that the visual fields had not been tested, and also that, owing to a mistake, the pus had not been examined at the time of its removal.

A Case of Compound Fracture of the Skull with Extensive Laceration of the Soft Parts and complicated with Rupture of the Chorioid of the Right Eye by Contre-coup, treated by Strict Antiseptic Methods; Recovery.—Dr. Charles E. Lockwood then read the notes of a case of this sort. (See page 316.)

Dr. Phelps and Dr. Gouley were of the opinion that the ptyalism which developed during the progress of the case was not due entirely to the bichloride irrigation, but was partly the result of the administration of calomel.

Dr. Lockwood did not consider this an adequate explanation, as he had frequently administered calomel to this patient on previous occasions without the development of such symptoms.

Dr. Phelps presented a specimen for Dr. Dunham, of the fourth surgical division, from a patient who had been found on the 5th inst. at the foot of a staircase comatose and bleeding from the left ear. He recovered the power over the extremities in a short time, and passed from coma to an excited delirium. The discharge from the ear changed from blood to a clear serous fluid, the pulse grew weaker and he vomited several times, and died the next day. The verdict of the coroner's jury was that he died from carbolic-acid poisoning.

Dr. Gouley said he would like to know if any one present had observed a fracture at the base of the skull from a fall on the feet or on the buttock. He had been unable to find any such case on record, although the text-books mentioned it in a vague way as one of the causes of fracture.

Dr. Morris said he wished to direct attention to the best method of establishing drainage in these brain cases. Rubber drainage-tubes were very objectionable, for small portions of the brain would protrude and form small buttons, and, on removal of the tube, hæmorrhage was likely to ensue, with much disturbance of the brain. Absorbable bone-drains were better than rubber. When horse-hair was employed the brain was irritated every time it was removed, and it possessed no advantage over catgut which had been previously swelled by soaking in some antiseptic solution. He had made use of all these materials, and had found catgut answer admirably. For some time after the receipt of such an injury the discharge was very profuse, and from the deeper parts small brain particles were constantly discharged, even where there seemed to be very little destruction of brain tissue. Even Kocher's catgut, No. 7 or 8, would last long enough to secure proper drainage.

Dr. Robert Milbank presented a specimen of fatty heart removed from the body of a woman thirty-four years of age, who had died in the New York Infant Asylum. She was a multipara, and had been confined five or six weeks before at Charity Hospital. While in the asylum she had seemed to be in good health up to six days before her death. Then obstinate vomiting of mucus and water had set in, and had continued up to twenty-four hours before death. The temperature had ranged between 101° and 102°, with an evening rise of about two degrees. Examination of the heart had failed to show the existence of any valvular murmur. On January 5th Dr. Charles C. Kerley, the house physician, recognized a fæcal impaction. The speaker had found her with a pulse of 100 and a temperature of 100·5°, and suffering considerably from abdominal pain, but there was no tympanites. In the transverse colon there was a firm mass four or five inches long, which could be indented with the fingers. He suggested the use of the rectal tube, and, as she had had some morphine for the relief of pain, he preferred, instead of calomel, the administration of a Seidlitz powder with a drachm of sulphate of magnesium every hour until the bowels had moved freely. The obstruction was promptly removed, and with it the pain. There was then a slight cough, and, after the removal of the accumulation, the pulse, although weak, was somewhat improved. About 2 p. m. of the following day there was slight delirium and signs of collapse, and about an hour later she had died. The autopsy had shown the kidneys slightly inflamed from old trouble, and capsules adherent and the parenchyma slightly contracted. The liver was large and soft, and contained numerous fatty areas; the spleen was not much enlarged, but decidedly soft: the lungs were extremely congested and œdematous; and the heart had a yellowish color and was exceedingly friable, and the right ventricular wall was exceedingly thin, so that the organ, when removed, collapsed just as it did in cases of death from typhoid fever. The cause of death seemed to be fatty degeneration of the heart with acute dilatation.

Reports on the Progress of Medicine.

GYNÆCOLOGY.

By ANDREW F. CURRIER, M. D.

The Treatment of Interstitial Fibroid Tumors by Capsulotomy, or Positive Lympho-galvanic Drainage, a Deep Local Method (Baradue, Jour. de méd., Sept. 8, 29, Oct. 6, 1889).—The use of the continuous galvanic current for uterine affections may be considered under two heads: (1) The superficial method, which includes utero-ovarian galvanization and the employment of the chemical galvano-cautery to the diseased mucous membrane; (2) the deep method, which includes Apostoli's plan of galvano-puncture for exudates and fibromata posterior to the uterus, and intra-uterine galvanotomy of interstitial fibromata of average size. All confusion will cease if it is accepted that intra-uterine chemical galvano-cauterization or electrical curetting is the true method of treating endometritis, while for the treatment of fibroid tumors one may choose the simple, prolonged method of galvanization of Aimé Martin, the expulsatory oscillations of Danion, Chéron, and Tranquez, or, the regressive, intense negative galvano-cauterization of Apostoli.

The author believes that the results produced by interpolar currents and galvano-cauterization are manifested less upon fibromata as a whole than upon the perifibromatous zone, though as a result the fibroma itself may become hard, dry, and atrophied. For interstitial fibromata of moderate size the author prefers a concentrated *positive* galvanic current of moderate intensity and prolonged duration, directed upon the peri-fibromatous capsule—in other words, positive lympho-galvanic drainage with drying of the peri-fibromatous zone and subsequent induration of the fibroma. For this purpose a round galvanic capsulotome is used which shall puncture the capsule by galvano-caustic action. Such a method of treatment involves the division of the uterine apparatus into two systems: First, the superior or ovaro-tubo-uterine system, which is supplied by the renal plexus of nerves and the ovarian artery. It has relations with the solar plexus and the lumbo-intestinal plexus, whence the influence of the ovaries and the fundus uteri upon the diaphragmatic region, the stomach, and intestines. Its ganglionic center is the lesser splanchnic; its medullary center is constituted by the origins of the eleventh and twelfth dorsal and the first lumbar nerves. It includes the ovarian and tubal arteries, the angular artery of the uterus, and the artery of the fundus uteri. It is related, therefore, with the principal organs of menstruation and reproduction.

The second division is the inferior system, which is supplied by the hypogastric plexus, is related to the first sacral nerves, and is distributed to the body and neck of the uterus.

This anatomical division leads to the consideration of two great classes of diseases: 1. Ovaro-tubo-uterine diseases, singly or collectively. 2. Vagino-cervical diseases, singly or collectively. Since each of these two classes of diseases calls for local treatment, the galvanic current must be directed to the tissue supplied by the arteries of the fundus, the body, or the neck, according as the tumor is nourished by one or the other vessel. Hence the result is practically the same whether an artery supplying the given tumor is ligated, or a thrombus is produced by the galvanic current—that is to say, there is atrophy of the mass, disappearance of pain, cessation of hæmorrhage, and a rapid or progressive premature menopause. In order to understand the action of a fibroma one must also consider that the energy of the uterus is derived from two elements—cylindrical epithelium and muscular fiber. The uterus is an organ which is always in a state of preparation, parturition, or repair, and its activity depends upon the epithelium of its mucous membrane and the cellular fiber of its muscle. Among many women there is a predisposition to the development of fibromata, especially among those who have not had more than three children, as if the uterine force were not exhausted by the natural process of gestation and had taken a perverse direction as a sort of complementary action. As a collateral and confirmatory fact, fibromata are rarely found in women who have borne several children. Such a theory would furnish an indication for the galvanic current to restore the normal condition of the uterine muscle by an alterative electrolytic action. The fibromatous process either involves all the uterine elements, resulting in a diffuse fibroma of the organ, or it expends itself upon the elements in a segment of the organ. An interstitial fibroma is a localized tumor which involves a modification of the elements contiguous to it. Apart from the fibromatous zone, the remainder of the organ may be in a nearly normal condition. Hæmorrhagic endometritis is prone to occur if the tumor encroaches upon the cavity of the uterus. The point of departure or origin of a localized fibromyoma is not yet well understood. The tumor itself becomes a foreign body in the uterine muscle, and the latter undergoes modifications for the purpose of expelling the mass by a kind of intra-uterine or peritoneal accouchement.

The perifibromatous zone includes the lymphatic capsule which envelops the fibroma and nourishes it with its fluids. It is formed by a wall which is covered with pavement cells and secretes a thick mucilaginous fluid of nitrogenous character analogous to dextrine. The delivery of the fibroma is favored by the lamellar arrangement which the muscular fibers assume. The clinical differences between interstitial fibromata may be grouped in three types, and these types may be termed, 1st, nodular fibroma, which is most frequently characterized by polymenorrhœa without endometritis, and is quickly relieved by galvanism; 2d, interstitial fibroma with lamellar zone, and frequently with accompanying endometritis, and persistent hæmorrhage which may be relieved by the positive lympho-galvanic drainage of capsulotomy, the fibroma becoming indurated as the capsule dries up and the perifibromatous zone atrophies; 3d, fibroma without a zone, which may be either a large subperitoneal tumor or a small polypoid development with a pedicle in the abdominal or uterine cavity.

The efforts of Nature in attempting to expel a fibroma into the abdominal or uterine cavity teach that the aim of treatment should be as follows: 1. The thrombotic drying up of the perifibromatous zone and the pedicle of the fibroma in order to produce atrophic induration of the latter. 2. The expulsion of the polyp. 3. The return to a normal condition of the muscular fiber of the perifibromatous zone. The treatment will consist (1st) in producing the cessation of the mucous and sanguineous discharge from the mucous membrane and in curing the cellulitis and disposing of the adhesions of the serous membrane by suitable galvano-caustic applications. (2d) When the severe symptoms have been modified the object of treatment should be to dry up the perifibromatous zone by a series of positive galvanotomies upon the most prominent portion of the tumor. The intra-uterine electrode should have a round extremity and should be insulated throughout nearly its entire extent. A current of 50 to 150 milliampères, for seven to fifteen minute, twice a week, will be sufficient to effect the opening of the capsule, and this will be followed by a certain degree of disintegration and drainage of the tumor.

The lympho-galvanic drainage has the following factors:

1. Uterine polar effects, including acid cauterization of the mucous membrane of the capsule, discharge of the gummy contents of the tumor, thrombosis of the vessels, drying and pedunculation of hard interstitial tumors, and sclerosis of the surrounding tissue.

2. Interpolar effects, consisting in chemical modifications demonstrable in the peri-fibromatous area.

3. Action upon the ovary, the functional abnormity of which is corrected.

4. General effects upon the entire organism into which a new force has been introduced.

5. Ulterior effects after the current has ceased, especially with reference to the new electro-capillary currents which are set up within the tumor.

Oophoritis (Petit, Jour. de méd., Oct. 6, 1889).—From histological examinations it has been concluded by the author that oophoritis occurs under two principal forms—the suppurative and the sclerotic. Encysted abscesses, follicular cysts, whether serous, caseous, or bloody, are usually related to oophoritis of one form or the other, and should not be confused with neoplasms of the ovary. Abscesses of the ovary are at first almost always localized in the Graafian follicles, and may constitute one of the consequences of the puerperal state. After long continuance they may prove to be a source of infection. Follicular cysts are the result of repeated congestions of the ovary and may result in interstitial oophoritis. The conditions mentioned need not be considered as indications for removal of the ovaries, at least not until after some months of palliative or expectant treatment. With regard to the normal evolution of the Graafian follicle, the following points are submitted:

1. The existence of a subepithelial endothelium is very questionable. The so-called lymphoid layer, when it exists at all, is in reality only a fibrillary layer which is poor in cells and is hardly to be distinguished from the external cellulo-vascular layer.

2. In the developing ovisac the intrafollicular cells, which have heretofore been regarded as a single layer of cells flattened against the proliferating wall, become cuboidal in shape and divided into two layers, which are sustained by two sets or systems of papillæ. One of these layers adheres to the ovule while the other remains attached to the wall of the follicle. These papillæ remain after the ovisac has ruptured. Should they become fused and the epithelium undergo hyaline degeneration, the corpus luteum would atrophy, but should they continue to live and grow, the corpus luteum would hypertrophy.

A knowledge of these details of the normal histology is of great assistance in studying the histology of follicular cysts of the ovary, whether sanguineous or serous.

Serous cysts result from a dropsy of the follicle or of the ovule. They may contain only a single layer of cubical cells on the internal face, or there may be two zones, the inner one resting upon a hyaline membrane which corresponds to the vitelline membrane. The sanguineous cysts are of the following varieties:

1. Those which proceed from an exaggerated physiological hæmorrhage after the exit of the ovule.

2. Those which are due to hæmorrhage within the corpus luteum.

3. Those which result from primary intravesicular hæmorrhage and are not preceded by rupture of the ovisac.

4. Those which result from dropsy of the follicle and hæmorrhage.

5. Those which occur in cases in which the ovule is retained within the ovary.

Follicular serous cysts become pathological only when their number or their volume is large. Follicular dropsy may depend upon concentric sclerosis of the ovary, or upon exaggeration, prolongation, or irregular occurrence of the ovarian congestion. Sanguineous cysts may be due to different causes, whether these causes are termed interruption of the circulation, vascular lesions, or a condition of sanguineous dyscrasia. There is every reason for believing that cysts of follicular origin are usually benign in character and of limited development. It is a fact, however, that their development may, in some cases, become excessive and that they may be transformed into proliferating cysts.

Curetting of the Uterus (Sabail, Jour. de méd., Oct. 6, 1889).—The following is an abstract of the author's paper: Curetting and écouvillonage combined constitute an inoffensive operative procedure if strict antiseptic precautions are observed before, during, and after the operation. The author's experience of seventy cases has been unattended with accidents due to the surgical measures. The operation may be performed by any general practitioner of moderate skill. Recent circumuterine inflammation contra-indicates its performance. In sixty of the cases the morbid condition was a result of labor or abortion, in four there was gonorrhœa, and in six interstitial fibroma or cancer. Of the gonorrhœal cases, two were complicated by oophoro-salpingitis. As a means of diagnosis, curetting has been shown to be of great value. In fifty-five cases the operation resulted in a cure, and was followed by pregnancy in six in which sterility had previously existed. Perimetritis followed two of the operations. In two of the cancer cases the patients have remained in fair health for two or three years, the curetting being performed at suitable intervals. In the case of interstitial fibroma hæmorrhage recurred within a short time after the curetting.

The Treatment of Uterine Catarrh with Applications of Chloride of Zinc (Vergely, El Prog. Gin., May 10, 1889).—Many cases of mild uterine catarrh exist either of the cervix alone or of the cervix and body, which are quite rebellious to ordinary methods of treatment. Such cases have been satisfactorily treated by the author with chloride-of-zinc solution. The treatment is commenced eight days after the termination of menstruation, and in the absence of any pain in tissues contiguous to the uterus or ovaries. The vagina and cervix uteri are first irrigated with a hot 15-per-cent. solution of boric acid combined with 1-to-200 solution of sublimate. The uterine cavity is then carefully cleansed of all mucus and a 5-per-cent. solution of the chloride of zinc applied over the entire surface of the mucous membrane. This operation is repeated two or three times at intervals of eight days, and a more concentrated solution of the zinc may be used if indicated. The application is rarely painful excepting in cases in which there is much congestion or inflammation. In the latter case the zinc may excite bleeding which may continue moderately for several hours. Should there be fungosities or should the ulceration not yield promptly to the zinc treatment, one may employ a solution of chromic acid (1 to 3). The latter gives very little pain and produces a yellow slough which falls off in about six days. It may be well to alternate the chromic acid with the zinc. Great care must be used that these solutions are applied only to the diseased tissues, and after their use the tissues should be again irrigated with the boric-acid sublimate solution, this being followed by the introduction of a vaginal tampon of cotton which should be retained twenty-four hours.

Massage in Gynæcology (Gaudin, El Prog. Gin., April 25, 1889).—Massage was introduced as an agent of scientific value in 1863. In 1868 Braucl first suggested it as a means of treating uterine affections. It may be used in the so-called external form, by frictions, and by relaxations of the abdominal wall, through which the volume and outlines of the uterus may be perceived. This suggests that massage can be used only in cases in which there is little abdominal adipose tissue. The patient should be in the dorsal position, with thighs flexed and knees separated. The rectum and bladder must be empty and respiration must be regular. Hegar and Kaltenbach have advised that the bladder and rectum be filled with warm water, the vagina tamponed, and that these cavities be quickly evacuated when one is about to make a bi-manual exploration. Such a plan is of advantage in many cases, especially if one is making an exploration for purposes of diagnosis, but it would hardly be suitable for daily use in cases in which massage is to be employed. It is important that the fingers which are to operate in massage be applied with the palmar surface tangential to the diseased organ—that is, they are not to be forced perpendicularly upon the organ. The abdominal and vaginal walls may at first show a certain degree of rigidity, but there is always a space in which the fingers can be placed in every case which is suitable for this treatment—namely, the fundus of the anterior subpubic space, immediately behind the symphysis pubis. The external hand, therefore, will have its grasp above the mons Veneris, the fingers radiating toward the umbilicus, while the index and middle fingers of the other hand will be passed into the vagina. If one finger alone is introduced into the vagina, it may cause either pain or undue excitement. The dorsal surface of the fingers introduced into the vagina should rest against the posterior commissure of the vulva. The movements of friction, pressure, and malaxation should always be slow and regular. The force exercised by the two hands should be in exactly opposite directions—that is, while the external hand should work downward, the fingers within the vagina should work upward. Anteversions of the uterus show better results from massage than any other form of displacement. In chronic metritis, and all other affections which result in hypertrophy of the uterus, the fingers within the vagina should support the uterus while friction is exerted by the external hand upon the posterior portion of the organ, a concentric compression being practiced. If there is infiltration in the circumuterine cellular tissue, the external hand should fix the organ while massage is practiced by the fingers in the vagina upon the cervix and the anterior and posterior portions of the uterus. When the uterus is fixed in pathological anteflexion or anteversion, a kind of passive gymnastics should be practiced upon such portions of the organ as may be moved; if atrophy or sclerosis are present, one can only hope for an improvement, but not a cure of the condition. If flexion is the result of adhesive bands caused by pelvic peritonitis, the prognosis will be favorable; massage will produce a decided improvement in the circulation. Massage is contra-indicated in conditions of acute inflammation.

Rigorous antisepsis should be observed in all cases in which this treatment is to be employed. The diagnosis should be exact, and the seat of the lesion carefully determined in every case. The mobility or immobility of the uterus, the existence or non-existence of adhesions, should all be carefully ascertained, and in some cases it will be necessary to use an anæsthetic before a diagnosis can be made. Massage *per rectum* is advocated by some, but is believed to be impracticable on account of the slight tolerance of such interference by that organ. The uterine affections in which this treatment is indicated are the following:

1. All chronic and atonic conditions of the uterus.
2. Uterine inertia and its consequences—amenorrhœa, dysmenorrhœa, chlorosis, and anæmia.
3. Neuralgia of the pelvis, coccygodynia, oophoralgia, etc.
4. A tendency to the accumulation of fat in or upon the genitals.
5. It is also recommended by some gynæcologists for those nervous or mental disorders which appear to be reflected from uterine disease—such as hysteria, neurasthenia, hypochondria, etc.; but for such conditions the author believes this treatment uncertain and dangerous.

Indications for the Total Extirpation of the Uterus by the Vagina (Thiemkattbes, Transactions of the Sixty-first Congress of German Physicians and Naturalists).—The author first called attention to the fact that this operation had been devised and perfected by Germans, including Henning, Czerny, Bardenheuer, Olshausen, Schroeder, Martin, Leopold, Fritsch, and others. It had been modified by surgeons of other nations, including Péan and Richelot, whose method of substituting compression forceps upon the broad ligaments in place of ligatures was a valuable modification, and it was believed that the general use of the forceps instead of the ligature would cause the operation to be regarded not only as safer, simpler, and easier than other methods, but also as more useful as to its results. Most authors agreed that the operation was contra-indicated in cases in which the parametrium and annexa were infiltrated.

Olshausen had observed that there were many more operable cases of uterine cancer in Berlin than in Halle—that is, that in a metropolis women with such troubles were more likely to seek relief in an early stage of the disease than in a small town or city. But, even in the advanced stages of the disease, one should not withhold the relief which may come from palliative means of treatment. After total extirpation, cicatrization follows in three to five weeks, and it may be so firm that, when there is recurrence of the disease, ulceration in the cicatrix does not occur, death resulting from secondary formations in the viscera or from general cachexia. The decomposition of tissues with its offensiveness, the pains, and the prostration of an ulcerating disease are thus avoided. A case was narrated in which the left parametrium was found rigidly infiltrated two years after extirpation had been performed, the patient being in a good condition of health for months after this infiltration was observed. Such cases may give rise to doubt as to whether such rigidity is due to cancerous infiltration, for it may be only the result of parametritic exudation.

Some Special Points in the Technique of Plastic Operations upon the Vagina and Vulva (Doléris, Jour. de méd., May 19, 1889).—A perineal operation is described and very clearly illustrated with drawings, apparently as an original operation, but it seems to correspond to what is commonly known as Tait's operation, though Tait does not profess to be the author of it, and as a matter of history it was performed years ago by Peaslee, by A. C. Post, and probably by others. But it is a very good and very simple operation.

Alexander's operation is advocated as one of the important means in the cure of retroposed uteri, and the author's experience in fifty cases gives him the right to speak with authority. As a modification he proposes to fasten the two ligaments, after they have been drawn out, together, one of them being drawn subcutaneously across the mons Veneris and secured to the other. [This modification was suggested two years or more since by Dr. Robert Abbe in an article read before the Clinical Society of this city, and published with drawings in the New York Medical Journal. The modification is not always practicable, and, as the ligaments and their sheaths are not very vascular, it is by no means certain that union will take place, as we know from personal experience.]

A mixed method of suturing the uterus to the abdominal wall is also referred to in which, in addition to the sutures uniting the anterior uterine wall to the abdominal wall, the round ligaments and Falloppian tubes are brought forward and secured in the abdominal wound. Silk sutures are used and are to be removed in ten days. The operative results have been satisfactory, but the therapeutic results are susceptible to the following criticisms:

1. In principle, hysteropexy suspends the womb to the abdominal wall by a pathological adhesion.
2. It does not effect a change in the lesions (aside from the retroposition).
3. It produces an exaggerated cystocele which forbids the use of a pessary.
4. If the use of vaginal tampons to sustain the uterus is discontinued, painful traction upon the organ will result, and the symptoms will be worse than those of the antecedent disease.
5. Sterility appears to be a necessary consequence of this operation.
6. It is entirely possible that if pregnancy should occur, traction upon the adhesions would end in the loss of any good results which might have been obtained.

Puncture of the Uterus through the Abdominal Wall for Dropsy of the Amnion (Lepage, Ann. de gynécologie, October, 1888).—In certain cases of pregnancy in which there is considerable dropsy of the amnion, the distension of the abdomen may be such as to render it impossible to make a diagnosis of the condition by palpation, auscultation, or digital examination. In some cases an intra-uterine touch enables one to recognize the presence of a fœtus within the uterus, but, on the other hand, the result of the examination may be negative on account of the great distension of the abdomen. In a case reported by the author there was twin pregnancy with dropsy of the amnion of only one ovum, and that the one which was not contiguous to the os uteri. In such a case one should not hesitate to aspirate the uterus by the abdomen, taking all necessary antiseptic precautions. Such a puncture will make the diagnosis clear and may relieve the patient from pain, dyspnœa, etc. Such a puncture may expose the woman to abortion or premature labor, but it must be considered the least of several evils. If nothing is done the issue may be fatal for the mother, or premature labor may occur, or the fœtus may lose its life or suffer injury from the pressure.

Myomata and Fibro-myomata of the Uterus and Analogous Tumors of the Ovary (Doran, Trans. London Obst. Soc., 1888).—Myomata of the uterus are very common, and fibromata of the ovary are very rare. Study and comparison of these tumors show destruction of the true muscular tissue cells and the presence of certain others which are found in fibrous tissue and in sarcomata. Some pathologists hold it impossible to make a true distinction as to these tumors. The histology of the uterine wall is not a very complicated subject, for it is composed mainly of simple muscular cells combined with more or less connective tissue. The same composition appertains to the tube and the round and ovarian ligaments, which are the true appendices of the uterus. A benign tumor composed of muscular tissue cells may develop with the greatest facility in the walls of the uterus or in any one of the uterine appendages, and of such structure is the uterine myoma. When it is developed at the expense of the white connective tissue the result will be the uterine fibro-myoma. The muscular tissue cells of a myoma may be larger than those of the uterus from which the tumor is developed. The comparison of the muscular tissue cells with the smaller ones of like appearance which are found in the white fibrous tissue of a fibro-myoma is important, especially with reference to the supposed cases of myoma of the ovary. On the other hand, the histology of the stroma of the ovary of woman is not well known. Existing notions in regard to it are based largely upon the study of the ovary in animals. The observations of Harz show that such comparative study may lead to serious errors. Fibrous tissue is abundant in the hilum of the ovary of woman, and this explains the possibility of fibroma of that organ. Muscular tissue is found in the parenchyma of the ovary, in the tunics of the vessels, and in certain processes in the ovarian ligament. The connective tissue associated with the follicles of the ovary is of varying character. Fibroma of the ovary, though rare, is perfectly well understood. Sarcoma of the ovary may be explained by the abundance of young connective tissue in the ovary. The existence of ovarian fibromyoma has been denied. As there is muscular tissue in the ovary, the development of myomata is not impossible.

Total Extirpation of the Uterus for Non-Cancerous Conditions (Frank, Trans. of the Sixty-first Congress of German Physicians and Naturalists).—This subject was considered by the author a very important one for discussion, the operation being one of the most beneficent in gynæcology for those uterine diseases which have refused to yield to all other means of treatment. It is one which is without especial danger if the uterus is enucleated from the peritonæum. It has been performed by the author twenty-five times without a death. In all cases it has resulted in benefit, inflammatory processes, ovarian neuralgia, and other pelvic troubles disappearing. In two cases removal of the ovaries had failed to relieve hysterical troubles, one of the cases showing violent hystero-epileptic attacks. Both cases were completely cured after the removal of the uterus. These cases convinced the author that if the ovaries are to be removed the uterus should be removed at the same time.

Perinæoplasty by the Flap or Tait Method (Rodzevich, Trans. St. Petersburg Obstetrico-Gynæcological Soc., 1889).—The author reports thirty-six cases in which this operation was performed in Slavjansky's clinic. In two of the cases there was complete rupture of the perinæum, and in most of the others there was more or less prolapse of the vaginal walls or of the uterus; in one there was a recto-vaginal fistula. The method of operating consisted in obtaining a raw surface by splitting the recto-vaginal septum and forming a flap, which was limited to the vagina in cases of partial perineal rupture, while in complete ruptures a lower flap was obtained by incisions extending downward to either side of the anus, the flap being used to supply the defect in the rectum. In all other operations a want of success leaves the patient in a worse state than she was before, which is not the case with this operation, and it surpasses all others by the simplicity and uniformity of its technique, the rapidity with which it may be performed, and the slight after-treatment which is required. The admirable results which have been obtained constitute the chief recommendation of the operation. Slavjansky's method of performing this operation is, in detail, as follows: The patient is placed upon the back and the field of the operation is carefully cleansed. A subcutaneous injection of five to ten centigrammes of a solution of cocaine is made along the course of the proposed incision, the vagina is distended with retractors, and a curved incision is made in the recto-vaginal septum, its extremities reaching the points from which the rupture originally began. The upper flap, composed of vaginal mucous membrane, is stripped from the submucous attachment, a finger in the rectum serving as a guide, and this leaves a raw surface rhomboidal in shape for suturing. The sutures are then passed from side to side, which, when secured, will form a line of union occupying the former site of the rhaphe of the perinæum. Either a continuous or an interrupted suture may be used, silk being preferable for the former and catgut for the latter. In most of the cases union by first intention resulted, and in none of them did union fail to take place.

The Treatment of Salpingitis and Certain Lesions of the Annexa of the Uterus (Lucas Championnière, Trans. Paris Surgical Society, December, 1888).—With regard to pathogenesis the author did not think the term salpingitis well chosen, since in the majority of cases in which this disease is diagnosticated inflammation of the Falloppian tubes alone does not exist. In very many cases both tubes and ovaries are simultaneously diseased, in others the disease is limited to the ovaries, and in yet others neither tubes nor ovaries are diseased, the lesions being in tissues adjacent to these organs. Hence confusion has arisen and the result has been an inexact pathogenic theory. The theory has been advanced that salpingitis results from the extension of inflammation of the mucous membrane of the uterus to that of the tubes, and this has been referred to as one of the incidents of puerperal fever. This view was long since combated by the author as unnecessary for the explanation of circumuterine accidents of an inflammatory character which follow parturition or abortion. In his writings in 1870 and 1875 the author showed that such conditions were clearly referable to disease of the lymphatics, and that these vessels alone formed the channel for the propagation of inflammation in lesions of the uterine annexa. Without bringing up anew the history of circumuterine inflammations, and with merely a reference to the light which Bernutz has shed upon this subject by the notion and the term pelvic peritonitis in place of circumuterine phlegmon, the author insists upon the clear definition which should be made of tumors which are lateral to the uterus, according to the epoch in which they are observed. In the beginning of the disease tumors of varying character may be made out lateral to and posterior to the uterus. The vaginal touch will readily reveal tumors in Douglas's pouch which have been variously named circumuterine phlegmon, perimetritis, and pelvic cellulitis, these names signifying inflammatory products which, after a time, disappear to a greater or less extent. Of a very different character are the swellings and the lesions which are found associated with the annexa of the uterus. To explore these, abdominal palpation is necessary, without, of necessity, the vaginal touch. Such lesions may arise from various causes. If from an injury to the cervix, the first result would be disease of the contiguous lymphatics and propagation to the uterine annexa. This would be a true salpingitis, and with it would be associated local peritonitis and the formation of intestinal adhesions which, in some cases, would lead to intestinal obstruction. In none of the author's operations has he been able to find inflammation of the mucous membrane of the uterus at the level of the tube, which leads him to discredit the theory that the mucous membrane is the medium by which the disease is extended. The multiplicity of lesions of the uterine annexa which may coexist renders it far from a simple thing to make a diagnosis. In Germany it is deemed best to establish the diagnosis under chloroform anæsthesia, but the author thinks it unnecessary to impose this discomfort, since all necessary points can be ascertained by abdominal or vaginal touch. Operative treatment will vary with the nature of the lesion. Usually the annexa of both sides should be removed.

In the discussion of the foregoing paper Dr. Quénu dissented from the reader's anatomical pathology, believing that tubal disease was propagated from disease of the uterine mucosa. The frequent coexistence of ovaritis with salpingitis might be explained by propagation by the lymphatics. The speaker would not agree with the proposition of Routier that every woman who has a painful tumor in the belly should submit to laparotomy. In his experience about one half of the cases should be operated upon; the others can be cured by appropriate internal and local medication.

Dr. Richelot believed that salpingitis might be the result of lymphangeitis and equally that it might be the extension of an inflammation of the uterine mucosa. He considered the diagnosis of the disease difficult, especially with the view of fixing an indication for laparotomy. In one of his cases he could not make a precise diagnosis, and performed a successful exploratory incision; in another, profoundly changed cysts of the ovary were found. In one case diagnosticated as a fibroma a pyosalpinx opening into the rectum was found. In another case an operation was performed during menstruation. The woman died on the following day, and at the autopsy general peritoneal congestion was apparent. Dr. Terrier could not accept the author's proposition that the lymphatics were the sole media by which salpingitis resulted. Complications in salpingitis result in every case in which there is solution of continuity between the ovary and tube, and pus may or may not be present in such a pelvic peritonitis. The functional symptoms in salpingitis and salpingo-ovaritis are variable and are only of secondary importance. The speaker believed that anæsthesia would frequently be of great service in determining a diagnosis. The prognosis of salpingitis would vary according as the form was suppurative, catarrhal, vegetative, follicular, or interstitial. It was not believed that laparotomy should be performed in non-suppurative salpingitis unless there were severe pain or hysterical phenomena. Salpingitis was undoubtedly of great frequency and very often of microbial origin.

Creolin in Gynæcology (Chéron, El. Prog. Gin., May 10, 1889).—The author has made extensive experiments with this substance in two-per-cent. and five-per-cent. solutions. The weaker solution has been used for vesical injections in cases of blennorrhœal urethritis, five grammes being thrown with a syringe directly into the bladder. Neither poisoning nor pain resulted; the discharge diminished and soon disappeared, injections being practiced every other day. Blennorrhœal elytritis was quickly improved by irrigation of the vulva and vagina with the five-per-cent. solution. In purulent cervical endometritis the diseased tissues were first carefully cleansed with absorbent cotton, after which the five-per-cent. creolin solution was applied, the suppuration ceasing after a few applications. Creolin gauze was found an excellent substitute for iodoform gauze in cases of suppurative and hemorrhagic endometritis which required a tampon. It was concluded from the foregoing that creolin has a very positive effect upon the microbes of blennorrhœa and of pus, and that in ordinary doses it is neither painful nor toxic.

Abstract of the Proceedings of the Third Congress of the German Gynæcological Society, held at Freiburg, in Breisgau, June 12, 13, and 14, 1889.—Dr. Leopold presented specimens from a case of placenta prævia. The woman came to his clinic in an exsanguinated condition, with a pulse of 140. There was fissure of the cervix and placenta prævia centralis. Version was attempted, and he was able to bring down a foot into the cervix, but the woman died in a few hours. The cervix retained its complete length, all the muscular fibers being intact. The uterus had become extended to an enormous degree.

Dr. Olshausen remarked that in cases of placenta prævia, according to the site of the placenta, the uterus became extended or contracted according as the ovum was seated in a higher or lower segment of the organ. In a case which he had seen in Berlin the fundus uteri was so much contracted that the force of the uterine pains had been abolished.

Dr. Frommel spoke of Zuckerkandl's method of extirpation of the uterus as a substitute for vaginal extirpation, which was sometimes not all that could be desired. Zuckerkandl's method consists in making a curved incision between the tuberosities of the ischia which passes midway between the anus and the coccyx. The rectum is separated from its attachments with the finger, and ample space is then obtained, which gives access to the peritoneal cavity. Through this space the necessary ligation of arteries can be readily accomplished, and there is ample room for the extirpation of the uterus and all carcinomatous tissues. The bladder may be readily separated from the fundus uteri. The speaker believed that the operation was practicable, and that it would be useful in certain difficult cases. It would also be useful to follow this course in treating certain retro-uterine abscesses.

Dr. Sänger spoke concerning the extirpation of pelvic tumors by perinæotomy. This term signified the opening of the ischio-rectal fossa through the peritonæum for the extirpation of cysts, hæmatomata, exudates, and other tumors in the connective tissue and in Douglas's pouch. Such an operation had recently been performed by him upon a woman, forty-two years of age, who suffered with a recto-vaginal and retro-rectal dermoid cyst. The assistance of a gynæcologist had been required by her in her six last labors on account of the development of the tumor. The speaker made an incision eight centimetres long, starting from the middle portion of the space which separates the right labium majus from the anus and extending outward by the side of the anus. Having penetrated the tissues, a cyst as large as a child's head was found, which was independent of the ovary. A perfect cure resulted. Only ten similar cases have been reported.

Dr. Battlehner had made a lateral incision in the perinæum to extirpate a neoplasm of the pelvis.

Dr. Wiedow spoke concerning pelvic abscesses. The ordinary points of departure of pelvic abscesses are exudates in the pouch of Douglas, the fundus of the vesico-uterine pouch, the connective tissue, the peritonæum, the iliac fossa, the uterine annexa, and the sacro-iliac articulation. In extraperitoneal abscesses there is always fluctuation, which is wanting in intraperitoneal abscesses. With these abscesses there is remittent fever, as in pyæmia; there is anæmia with alternate constipation and diarrhœa. Should the abscess open into the peritoneal cavity, death would speedily result. If an opening takes place externally, a fistula will usually result. An early diagnosis and operation furnish the best prospects for cure. Three classes of abscess may be distinguished—the subcutaneous or submucous, the deep, and the fistulous. In the first class incision and drainage are alone required. The deep abscesses may be incised, if possible, through the vagina. If they are inaccessible by the ischio-rectal fossa, or are in the vicinity of the rectum, Hegar's method of plastic resection of the sacrum may be practiced. This gives ready access to the abscess, which may be evacuated and the sac irrigated. In abscesses extending as high as the Falloppian tube, the peritonæum should be pushed away before they are opened.

Dr. Elischer had observed that amyloid degeneration of the kidneys usually resulted in those cases in which pelvic abscesses were long left untreated. This was an indication of the necessity of early operations.

Dr. Hirschberg had had good success in evacuating pelvic abscess by the rectum.

Dr. Wiedow believed it dangerous to puncture a pelvic abscess through the rectum. It might result in making an opening into the peritonæum and the discharge of pus into the abdominal cavity.

Dr. Veit spoke concerning the suture in the Cæsarean operation. The speaker had recently performed this operation upon a parturient *mona*, closing the uterine incision with the interrupted suture. At the end of five days the peritoneal and uterine wound had firmly healed. In reply to the statement that one should always operate in the presence of uterine pains, he would say that he had recently operated prior to labor, and atony of the uterus did not exist. Bar, of Paris, had operated under similar conditions with success. Others had met with severe hæmorrhage and uterine atony when operating before labor. His belief was that it was not well to take the risk of operating before labor comes on.

Dr. Sänger stated that the uterine wall of the *mona* could not be compared with that of woman. He believed that the peritonæum should always be included within the sutures.

Dr. Leopold had had four fatal cases in which the Cæsarean operation had been performed. He had observed that the peritonæum had always united. He believed that the operation should not be performed until labor-pains came on, and they should be of a vigorous character.

Dr. Münchmeyer spoke concerning remote results of extirpation of the uterus. Between 1883 and 1889 the uterus had been extirpated 110 times in the obstetrical clinic at Dresden—80 times for carcinoma, and 30 for other conditions. Of the 80 there were 4 deaths from the results of the operation, 1 being strangulated hernia, 2 septicæmia, and 1 peritonitis. Of the 80, there were 10 deaths from recurrence and 4 from intercurrent affections. With 41 there was no recurrence after one year, in 17 it had not recurred after more than two years; of the 17, 3 were operated upon three years ago, 1 four years ago, and 1 five. Of the 30 non-carcinomatous cases, 17 were operated upon for myoma, 5 for prolapse, 5 for severe nervous disease, and 3 for disease of the annexa. The vaginal extirpation involved less danger than the abdominal, and there were some women who could not endure an abdominal incision on account of cardiac weakness. Of the 110 operations only 6 resulted fatally.

Dr. Freund reported a case in which he had extirpated the uterus by his operation in 1878, and the woman was still living.

Dr. Leopold did not recognize superior advantages in the newer methods of extirpation of the uterus as compared with the vaginal method. Even in virgins and others with narrow vaginæ, one could operate with facility if lateral incisions were made. The arteries could be determined by feeling.

Dr. Hegar had experienced more trouble from the utero-sacral ligaments than from narrowness of the vagina.

Dr. Dührssen spoke concerning post-partum hæmorrhage. The speaker believed that the best means for diminishing mortality from this cause consisted in the use of the tampon, which was a hæmostatic, and would promote uterine contractions when massage and hot-water injections failed. It was superior to compression from without in cases of placenta prævia.

Dr. Dohrn had used a uterine tampon of iodoform gauze for atony after Cæsarean section, the result being the immediate appearance of uterine contractions. The gauze of ten-per-cent. or twenty-per-cent. strength could be used, or absorbent cotton, moistened with a three-per-cent. solution of carbolic acid.

Dr. Küstner spoke concerning ventro-fixation of the uterus. He believed Schultze's method of treating retroflexion superior to ventro-fixation. He had employed Schultze's method in forty-six cases, adhesions being present in nineteen of them.

Dr. Frommel thought ventro-fixation should be used only after other methods had failed.

Dr. Sänger had employed ventro-fixation in twelve cases, the uterus remaining movable in all of them.

Dr. Küstner thought that ventro-fixation must impede the expansive movement of the uterus during pregnancy.

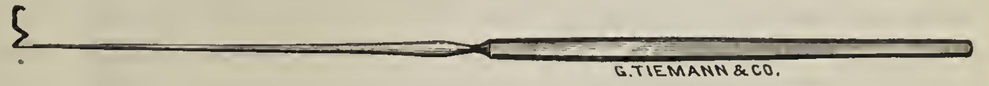
New Inventions, etc.

A NEW UTERINE TENACULUM FOR FORMING SHOULDERS TO WIRE SUTURES.

By Augustin Arango, M. D.

Both difficulty and inconvenience are often encountered in gynæcological operations, especially trachelorrhaphy, in bending the wire over the line of the wound to form the shoulders preliminary to twisting the sutures. The method commonly resorted to, by means of the ordinary uterine tenaculum, is easily accomplished on one side by bending upward or to the left the wire held by the twister; the hook of the tenaculum, being placed above the wire, acts as counter-pressure, and one shoulder is formed. On the other side the procedure is quite awkward, for, in order to make the shoulder here, it is sometimes necessary to cross hands or change the instruments in the hands to bring counter-pressure to bear on the wire.

After experimenting to overcome the difficulty, I have devised an instrument—now made by Messrs. Tiemann & Co., and represented in the cut—which materially facilitates this part of the operation. It consists of a solid steel uterine tenaculum, the arm or horizontal portion of which is bent so as to form two angular depressions—the first below, the second above. The first is used for making traction and counter-pressure in forming the shoulder on the left of the operator, or on the upper side of the wound, as the case may be; the second facilitates the forming of the lower shoulder, or that on the right of the operator, counter-pressure being made by *pushing* against the wire while it is properly bent. In all other respects the instrument resembles the ordinary uterine tenaculum, and may be used as such.



Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 25th inst., there will be an exhibition of clinical cases and new instruments, and the following papers will be read: Sarcoma of the Tonsil, by Dr. W. F. Chappell; Practical Anatomy of the Nose, associated with the Pharynx and Ear, demonstrated on numerous wet specimens, by Dr. R. C. Myles; The Ætiology and Radical Treatment of Nasal Myxomata, by Dr. W. C. Jarvis.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 27th inst., specimens and instruments will be exhibited, and the following papers will be read: Report of a Case of Uterus Bicornis Unicollis, with Parenchymatous Abscesses of the Portio Vaginalis, by Dr. A. F. Currier; the Cæsarean Section in Moderately Contracted Pelvis, by Dr. R. A. Murray.

The Iowa State Medical Society will hold its thirty-ninth annual meeting at Des Moines on Wednesday, Thursday, and Friday, April 16th, 17th, and 18th, under the presidency of Dr. J. M. Emmert, of Atlantic. The programme includes the following titles:

Section in Practice of Medicine, Dr. J. T. Priestley, Chairman.—Report, by Dr. J. T. Priestley, of Des Moines; Criminals, by Dr. L. J. Adair, of Anamosa; Diabetes Mellitus and its Treatment, by Dr. H. G. Ristine, of Fort Dodge; Diphtheria, by Dr. Perry Engle, of Newton; Observations on Fever and the New Antipyretics, by Dr. G. E. Crawford, of Cedar Rapids; The Importance of Accuracy in Diagnosis, and Aids to the Same, by Dr. H. L. Getz, of Marshalltown; A Report of some Cases of Intubation, Dr. D. W. Smouse, of Des Moines; Addison's Disease, by Dr. C. E. Currie, of Des Moines; Nature's Thermo-barometer, by Dr. Woods Hutchinson, of Des Moines; Diphtheria, by Dr. G. F. Jenkins, of Keokuk; and papers by Dr. A. B. Poore, of Cedar Rapids, and Dr. Elizabeth Hess, of Iowa City.

Section in Surgery, Dr. E. F. Clapp, Chairman.—Report, by Dr. E. F. Clapp, of Iowa City; The Present Mode of examining Pension Claimants; its Advantages and Disadvantages, with some Suggestions, by Dr. John P. Savage, of Sioux City; The Present Status of Hernia Operations, by Dr. J. W. Kime, of Fort Dodge; Contusions of the Abdomen, by Dr. E. H. King, of West Liberty; A Case of Syphilis, with Amputation of the Leg, by Dr. S. W. Clark, of Oskaloosa; The Advantage of the Early Correction of Deformity in Children, by Dr. J. W.

Cokenower, of Des Moines; and Tubercular Pathology and its Influence upon Operative Surgery, by Dr. W. F. Peck, of Davenport.

Section in Materia Medica, Dr. S. H. Stutsman, Chairman.—Report, by Dr. S. H. Stutsman, of Burlington; Alcohol as a Therapeutic Agent, by Dr. Mary B. Tuttle, of Burlington; Analgesics and Antipyretics, by Dr. C. E. Barnes, of Burlington; The Surgical Treatment of Pleuritic Effusions, by Dr. P. M. Jewell, of Ossian; How shall we reduce High Temperature? by Dr. S. W. Moorehead, of Keokuk; and a paper by Dr. O. D. Benson, of Des Moines.

Section in Obstetrics and Gynæcology, Dr. B. H. Criley, Chairman.—Report, by Dr. B. H. Criley, of Dallas Center; Transfusion in Post-partum Hæmorrhage, by Dr. L. Schooler, of Des Moines; Can Lacerations of the Perinæum be prevented in Labor? by Dr. C. M. Drumeler, of Panora; Meddlesome Conduct in Ordinary Cases of Confinement, by Dr. D. S. Grossman, of Minburn; Fibroids of the Uterus, by Dr. D. W. Crouse, of Waterloo; Electricity in Pelvic Exudates and Pelvic Pain, by Dr. Margaret A. Cleaves, of Des Moines; A Case of Eclampsia in the Third Month of Pregnancy, by Dr. W. F. Graham, of Atlantic; and A Case of Tubal Pregnancy treated by Electricity, by Dr. D. W. Smouse, of Des Moines.

Section in Ophthalmology and Otology, Dr. H. B. Young, Chairman.—Report, by Dr. H. B. Young, of Burlington; Nervous Troubles from Eye Strain, by Dr. W. H. Kinnier, of Dubuque; The Ideal Operation for Cataract, by Dr. W. C. Pipino, of Des Moines; Notes on the Treatment of Trachoma, by Dr. G. O. Morgridge, of Muscatine; and The Sphenoid Sinus, by Dr. E. H. Hazen, of Davenport.

Section in State Medicine and Hygiene, Dr. P. W. Lewellen, Chairman.—Report, by Dr. P. W. Lewellen, of Clarinda; Food and Drink, and their Relation to Disease, by Dr. J. F. Kennedy, of Des Moines; and a paper by Dr. E. M. Reynolds, of Centerville.

Section in Diseases of the Mind and Nervous System, Dr. I. P. Brubaker, Chairman.—Report, by Dr. I. P. Brubaker, of Des Moines; a paper by Dr. H. A. Gilman, of Mount Pleasant; and Neurasthenia, by Dr. M. F. Riordan, of Melrose.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending March 14th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Mar. 8.	1,603,629	696	..	..	..	..	..	..	3	9	35	11	11
Chicago, Ill.	Mar. 8.	1,100,000	434	..	..	..	..	..	..	23	13	21	..	3
Philadelphia, Pa.	Mar. 1.	1,064,277	443	..	..	..	..	..	..	12	3	11	5	....
Brooklyn, N. Y.	Mar. 8.	852,467	332	..	..	..	..	..	..	1	1	24	1	4
Baltimore, Md.	Mar. 8.	500,343	195	..	..	..	..	..	..	2	1	6	16	2
St Louis, Mo.	Mar. 1.	450,000	154	..	..	..	..	..	..	1	..	5	..	....
Boston, Mass.	Mar. 8.	420,000	169	..	..	..	..	..	..	1	..	12	..	4
San Francisco, Cal.	Feb. 28.	330,000	127	..	..	..	..	..	..	1	..	1	2	....
Cincinnati, Ohio.	Mar. 8.	325,000	119	..	..	..	..	..	..	3	..	9	..	1
New Orleans, La.	Mar. 1.	254,000	149	..	..	..	..	..	..	1	..	2	..	....
Washington, D. C.	Mar. 8.	250,000	106	..	..	..	..	..	..	1	..	2	3	....
Detroit, Mich.	Mar. 1.	250,000	71	..	..	..	..	..	..	..	13	19	1	....
Pittsburgh, Pa.	Mar. 1.	240,000	103	..	..	..	..	..	..	11	..	4	4	1
Louisville, Ky.	Mar. 1.	227,000	66	..	..	..	..	..	..	..	..	..	..	....
Louisville, Ky.	Mar. 7.	227,000	63	..	..	..	..	..	..	..	..	..	..	....
Milwaukee, Wis.	Mar. 8.	210,000	72	..	..	..	..	..	..	..	..	2	..	1
Minneapolis, Minn.	Mar. 8.	200,000	30	..	..	..	..	..	..	..	..	5	..	....
Newark, N. J.	Mar. 8.	193,500	79	..	..	..	..	..	..	1	..	1	2	....
Providence, R. I.	Mar. 8.	130,000	46	..	..	..	..	..	..	1	..	..	2	2
Rochester, N. Y.	Mar. 1.	130,000	34	..	..	..	..	..	..	2	..	..	..	....
Indianapolis, Ind.	Mar. 7.	129,346	30	..	..	..	..	..	..	..	3	2	..	....
Toledo, Ohio	Mar. 7.	92,000	29	..	..	..	..	..	..	..	..	6	..	....
Fall River, Mass.	Mar. 8.	69,000	36	..	..	..	..	..	..	..	..	1	1	1
Nashville, Tenn	Mar. 8.	68,531	24	..	..	..	..	..	..	..	..	1	..	....
Charleston, S. C.	Mar. 8.	60,145	38	..	..	..	..	..	..	1	..	..	..	....
Manchester, N. H.	Mar. 8.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.	Mar. 8.	42,000	12	..	..	..	..	..	..	..	..	..	..	....
Council Bluffs, Iowa.	Mar. 2.	35,000	10	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	Mar. 7.	31,000	10	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	Mar. 1.	30.000	7	..	..	..	..	..	..	..	2	..	..	....
Binghamton, N. Y.	Mar. 8.	30.000	11	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	Mar. 8.	26,000	6	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Mar. 6.	23.000	4	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Mar. 1.	22,011	10	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Mar. 8.	22,011	4	..	..	..	..	..	..	..	..	..	..	....
Keokuk, Iowa.	Mar. 8.	16,600	2	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Mar. 1.	15,000	4	..	..	..	..	..	..	..	..	..	..	....

Plaster-of-Paris Splints.—Dr. Powell, of Toronto, recommends the following method of applying plaster-of-Paris splints for certain kinds of fractures of the leg: "The leg is to be bandaged with cotton batting, which for the purpose is torn into strips four inches wide and applied as a roller. Using the sound leg as a model, to save the injured one from movement, a pattern is cut which will cover in all of the leg excepting a space an inch wide along its anterior aspect. Deep slashes opposite the heel allow the part for the sole of the foot to be brought into a right angle with that for the leg, without forming clumsy folds at the ankle. From this pattern four or five layers of scrim or from six to nine of cheese-cloth are cut. Then, with extension made and the foot properly held, the strips are to be saturated with a cream made by sifting, not stirring, plaster into warm water, smoothed one upon another, applied to the posterior aspect of the limb, interleaved by the slashes at the ankle so as to hold the foot at right angles with the leg, molded to the part, and then firmly bandaged to it with a cotton roller." "Scrim" is a coarser and stronger material than cheese-cloth, and hence a smaller number of layers suffice to make a firm splint. This is a modification of the well-known Croft's splint, and it is recommended as being very easily applied, comfortable, durable, and thoroughly efficient.—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, March 29, 1890.

Lectures and Addresses.

LECTURES ON SOME POINTS IN THE TREATMENT AND MANAGEMENT OF NEUROSES.

DELIVERED BEFORE THE
MEDICAL SOCIETY OF THE UNIVERSITY OF TORONTO,
March 11 and 12, 1890.

By E. C. SEGUIN, M. D.,
PROVIDENCE, R. I.

Lecture I.

Introductory Remarks.—Therapeutics is generally considered as the highest department or function of medicine. In a certain sense it is true that we become physicians for the express purpose of battling with disease, of wholly overcoming it, or at least of retarding its progress and of alleviating the sufferings of the sick and wounded. All the complicated education, preparatory and strictly medical, which we go through tends to prepare us for the successful practice of what is often known popularly as the *healing art.* While an exact diagnosis is an indispensable preliminary to rational treatment, and while the making of a correct diagnosis in obscure and rare cases of disease is a source of just pride to the practitioner, yet nothing can compare with the satisfaction, both for ourselves and for the patient and his relatives, which is afforded by the successful issue of a well-planned treatment, or the judicious alleviation of suffering in incurable cases.

How do we learn therapeutics? I put it in this way, gentlemen, because I am still learning the art, and expect to go on learning more and more of it to the end of my professional life. There are several correlated sources of instruction in therapeutics. We first are taught the natural history and physico-chemical characters of the drugs to be employed; that is materia medica or, better, pharmacology. In many medical schools students are now required to handle and personally examine the plants and substances used as drugs. Happy those of you who have the opportunity of spending a few months at work in a pharmacy acquiring a practical knowledge of these elements of therapeutics. A summer vacation or two thus employed would amply reward you for the loss of amusement and rest. This branch of elementary teaching should include, which it rarely does, I regret to say, the subjects of diet, hygiene, and more mechanical therapeutic agencies—such as water, massage, electricity, physical exercises, ventilation, etc. Next we are taught the physiological action of the more potent drugs upon the animal and human organisms. It is only in a few schools that a separate chair and laboratory exist for this important part of the curriculum. Usually we learn this somewhat piecemeal from the professors of physiology and of therapeutics. Still, there remains much more to learn—viz., the laws of compounding of remedies and of their application to manifestations of disease, or to what are called indications (usually disturbed physiological functions). This we learn partly from the professor of therapeutics, and in part also from the teachers of practical or clinical medicine at the bedside. Hence the reason why a professor of therapeutics should be a practical and experienced physician; his teaching should be a happy combination of experimental knowledge and of sifted practical experience. While I regard careful and well-controlled tests on man as the final criterion of the utility of a drug, I am not one of those who scorn the aid of the laboratory or of graphic records of the action of drugs on animals, high or low in the scale. By all means, let us have all the light we can in this difficult and still uncertain branch of knowledge, and let us be prepared to base our trials of a drug on human beings upon knowledge of its nature and of its action upon the nervous and circulatory apparatuses, etc., of animals.

Thus far, as students and as young graduates in medicine, can you go, but after a few years of practice new views open to you, and you thirst for still further knowledge of a more special sort. You want the results of the personal experience of physicians who have devoted years to the special study of certain diseases, and their treatment by potent remedies, chemical or mechanical, to help you in your daily practice, or to assist you in original observations of your own. Now, this higher, or more refined, or better sifted knowledge of therapeutics, for which there is not room in text-books, you obtain through medical journals, by reading new works on clinical medicine, whether in book or pamphlet form, and, lastly, by listening to special lectures embodying the results of many years of patient observation. In this more specialized study of therapeutics you will have to read and perhaps listen to a good deal of raw and useless matter, you will meet with a multitude of premature announcements as to the virtues of drugs or operations, and you will also have to encounter and criticise the honest enthusiast, who reports only favorable cases and believes that everything supports his plan of treatment. You will also have to meet the flood of fashionable remedies, floated and pushed by hasty medical experimenters and by interested producers. To extract the wheat from this chaff will require good judgment in your reading, and careful conservatism in your experiments upon patients. Always seek for the other view of a therapeutic claim, inquire for the unsuccessful cases, and make your own tests quietly without promising yourself or your patients too much from a new remedy or operative procedure. Time and repeated tests will settle the question safely, and you will thus save yourselves self-reproach and just criticism by others.

The mite which I now contribute to the admirable course of instruction at this university, by the courtesy of the council of your medical society, is in the nature of a *résumé* of considerable personal experience with the treatment and management of functional nervous affections or neuroses. In three lectures I can not, of course, treat systematically so large a subject—one requiring much detailed explanation to make one's experience of value to others. All I can do is to consider some important sections of the topic, partly in a positive way, advising you what to do for neuroses; and partly, also, in a negative way, warning you what not to do, or to do most cautiously in these affections. Every statement I shall make you will be based upon clinical experience, uninfluenced, I hope, by theory and fashion, and my warnings relative to the abuse of certain agents will be given without fear or favor.

As announced, the course will consist of three lectures, the first treating of some details of treatment of neuroses; the second, of the diet, hygiene, and moral management of neuroses; the third, on the abuse of certain drugs, more especially the bromides, morphine, and alcohol, in the treatment of neuroses.

Let us enter at once upon the question of the treatment of some of the more important neuroses.

I. EPILEPSY.—This formidable affection has no uniform pathology; it is as yet only a symptom, which may be produced by numerous pathological conditions. Of organic or symptomatic epilepsies, some are due to encephalic disease or injury; others depend upon a peripheral (*i. e.*, non-encephalic) disease or injury; and, lastly, they may represent toxæmic conditions, as the uræmic (falsely so called), gouty, etc. It is usually not difficult to recognize such cases, and to subject them to a more or less rational treatment, based upon the causal indication revealed by our analysis. But there remain many cases of epilepsy in which the most careful examination fails to reveal the presence of any gross lesion or toxæmic state; and these go to make up the group of idiopathic epilepsy. The aggressions of scientific pathological research and perfections in diagnosis tend constantly to reduce this group. There are also cases in which, during many years, the epilepsy appears idiopathic, and finally, perhaps in the course of a few weeks or months, definite symptoms of cerebral disease appear and enable the physician to properly classify the case. In this connection I might cite the case of the wife of a physician who had for several years been under the care of Brown-Séquard, and who had been examined by several other eminent physicians. Her attacks consisted of *grand* and *petit mal* of the most vulgar kind, usually with an epigastric ascending aura; the spasms were bilateral and typical in kind (tonic followed by clonic movements); in the *petit mal*, staring, drooling, and swallowing movements were prominent. Her facies and manner were those of a common epileptic. Yet, about the time she was placed in my hands, right hemisymptoms (numbness, anæsthesia, and paresis) appeared, and under observation choked disc began and developed fully. Autopsy revealed a gliomatous formation involving the left thalamus and internal capsule. My belief is that the new formation was present from the very onset of the epilepsy eleven years before, that it at first grew very slowly, and toward the last very rapidly. Thus, a case may, owing to imperfections in our methods of diagnosis, appear as idiopathic at one time and symptomatic or organic later on.

Idiopathic epilepsy presents itself to the careful student with numerous pathological signs or stigmata, no one of which can safely be pointed out as the chief or truly causal factor. Thus we notice in many epileptics the existence of hereditary taints of various sorts, apart from occasional direct inheritance of the disease. The child's progenitors have been debauched, addicted to sexual and alcoholic excesses; the victims of syphilis or of chronic starvation The patient himself is frequently microcephalic, or has a marked cranial asymmetry; his teeth are deficient or deformed; his head and long bones may exhibit signs of rhachitis; or his head may be abnormally large from hydrocephalus, or it is indented by pressure of forceps or pelvic bones during delivery. In some cases there is a history of asphyxial state at birth, with or without convulsions. Other conditions found which may play a part—how important we should be very cautious in stating—are defective eyes (refractive and muscular deficiencies), undeveloped uterus, feeble or diseased heart, etc. Acquired habits, such as early and excessive self-abuse in both sexes, the precocious use of alcohol or tobacco, undoubtedly lead to epilepsy in predisposed subjects. The same may be said of severe acute diseases, and the occurrence of an accidental (toxic, reflex, or febrile) convulsive seizure in infancy. Other attacks follow, in some cases within a few months or a year, in others several years after, and then the seizures become more and more frequent, constituting chronic epilepsy. In these cases we may, of course, suspect that a cerebral injury or lesion caused, accompanied, or followed the first eclamptic attack, but we can not always prove its existence; and, besides, it should be remembered that a great many children have one or several eclamptic attacks during early infancy, in what I have termed the period of convulsibility,* without ever having a recurrence. The element of hereditary predisposition here plays a most important part in giving efficacy to an exciting cause.

I have made this somewhat extended analysis of the pathological conditions observed in the victims of idiopathic epilepsy, because upon them we may sometimes base rational treatment of an accessory or co operative sort. While the routine anti-epileptic treatment is being systematically carried out, these secondary conditions may be—yes, should by all means be—studied and corrected. An epileptic may present several such conditions simultaneously—viz., defective eyes, dysmenorrhœa, and indigestion—each condition no doubt playing some part in the genesis of attacks. I say *attacks*, because in these cases the true cause of the *disease* lies deeper and at the present time beyond our ken, while the exciting cause of attacks is sometimes recognizable. Another reason for dwelling on these morbid states or secondary causal conditions is to warn you against attaching too great an importance to any one of them and being thus led into a one-sided, unscientific treatment of epilepsy. We are just now witnessing the decline of such an attempt. A few years ago a very able oculist † persuaded himself that eye-strain was the cause of epilepsy in a large proportion of cases, and his subsequent experience has been forced to come to the support of this preconceived and limited view of the pathology of epilepsy. He has treated a large number of patients by withdrawing their bromides, giving them glasses, and cutting their ocular muscles or tendons on a large scale. And the results?—at first, as usual with the therapeutic outcome of blind enthusiasm, fifty per cent. of cases were reported "cured."* You may imagine the astonishment of the profession at such a claim. Yet since the publication of the paper referred to in 1887 the inventor of the treatment and his followers have not published another case of "cure." †

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* N. Y. Medical Record, vol. xx, Aug. 6, 13; and Opera Minora, New York, 1884, p. 549.

† George T. Stevens, in New York Medical Journal, April 16, 1887.

This treatment was tested by a commission appointed by the New York Neurological Society, which, after two years and a half of work conjointly with Dr. Stevens, reported last November. Of the nine epileptic patients, not one was cured or much improved, three were slightly improved, and the majority unimproved. And it should be added that several cases (not counted because they did not submit to treatment for four months) withdrew because they were very much worse. One patient (under my own observation) would probably have died in *status epilepticus* had not the bromides been resumed. The question is thus apparently settled that treating the ocular defects of epileptics will not cure epilepsy, though it may reduce the sum total of exciting causes of attacks in some patients.‡ Yet the practice—an unscientific and injurious practice, as I do not hesitate to call it when indiscriminately applied—is still in full blast; necessary bromide treatment is suspended, muscles are cut and recut, an impossible (?) balance of ocular muscular forces being sought for, and glasses are ordered and re-ordered for the same patient. It will take some time yet for this local treatment to find its true level. The defective eyes of epileptics should be corrected, but there is the same demand on the part of the pathologically conditioned stomach, ovary, foreskin, etc., of our epileptics. In these diseased or disordered or defective and strained organs arise secondary causal influences which should by all means be removed; but from that to "curing" epilepsy is a long, long way. And while these causes of irritation are treated the bromide should not be withdrawn, or not wholly.

The same remarks apply to that other fashionable treatment of epilepsy and hystero-epilepsy, now also happily declining—viz., that by removal of one or both ovaries. What outrageous cases of useless mutilation have thus occurred under the pressure of medical authority and of popular craze for novelty and fair promises! The operation of castration in women is undoubtedly sometimes justified, and some few cases of hystero-epilepsy are relieved by it, but it is a measure to be resorted to only upon the most exact and clear indications, never haphazard or as a fanciful last resort.

Thus, gentlemen, I would make a strong plea for an attempt at a rational treatment of idiopathic epilepsy by a searching examination of the patient and by the careful removal of the various secondary causes or exciting conditions you may discover. In close connection with this lies the hygiene of epileptics, a subject with which I shall deal in a subsequent lecture.

I now pass to the consideration of the routine or palliative treatment of epilepsy, a treatment necessary in both the symptomatic and the idiopathic forms of the disease. I refer to the systematic use of the bromides and allied anti-epileptic (or anti-convulsive) drugs. It is here that I may be able to offer you the fruits of many years of practice and of many experiments as to substances and modes of administration. I shall fully state the drawbacks and uncertainty of the treatment, and try to enable you to carry it out successfully. It is a matter requiring much care and tact on your part, as well as intelligent co-operation and unusual perseverance on the patient's part.

Right here let me state that I am a pessimist as to the curability of idiopathic epilepsy, and have not yet published any case as *cured*. I have records of patients, and have patients actually under observation, who have had no seizures of any sort for periods varying from eleven to three years. Yet, only a year ago, an old patient wrote me of a recurrence of attacks after eleven years (several of which were without treatment) of freedom. Other cases have shown recurrence after seven years, five years, and many after two years of absolute freedom from any manifestation of the disease. Of course in these cases the bromide treatment had been discontinued, sometimes by my direction, sometimes by the patient, who had grown to have a false security or disregarded my warning. Whether a long-continued bromide treatment can cure epilepsy is a question which I believe can be answered in the affirmative, but this result is obtained, alas! only in an exceedingly small proportion of cases. Nearly all the so called cures which you will hear of and read are prematurely reported (and this applies particularly to cases treated by surgical means). In my opinion, as regards medical cases, an interval of at least five years without the slightest seizure, with a gradual reduction of the medicines during the fourth year and one year without medicine, should be the necessary preliminary condition to a report of cure. With respect to surgical cases, it would be wise to wait at least two years before placing them on record as cured. How many observers have placed such checks on their results?

The Routine Bromide Treatment of Epilepsy.—In undertaking the care of a case of this affection, you should stipulate for plenty of time to study the case in all its aspects, and for rather frequent visits at first for the purpose of adjusting the doses, securing proper hygiene, etc.

In the first place, remember that you are prescribing the drug not against the disease as a sort of entity or tangible enemy, but for the individual patient to reduce the excitability of parts of his nervous system to a certain point. The susceptibility of persons to the action of bromides varies very greatly. From these two considerations you readily perceive how delicate a matter it is to find the right dose for a given patient; it sometimes requires one or two months of experimentation. I have made it a rule to require epileptics who reside at a distance from me to stay in New York, or come in twice a week for one month at least. To see a case of epilepsy once and prescribe a bromide treatment is a most reprehensible, careless practice; the patient either receives too little of the remedy and attacks continue, or else he is brominized with sad if not dangerous results. In any case the end is failure, which throws discredit upon the physician and fortifies the opponents of this treatment. Allow me to state several laws relative to the dosage of bromide which I have worked out from my experience, successful and unfortunate. We learn much by our errors.

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* *Loc. cit.*

† Dr. A. L. Ranney is a firm believer in Dr. Stevens's teaching with reference to the ocular theory of epilepsy, yet, after treating many cases after Stevens's method, he can only give us the following summary of results in his excellent Lectures on Nervous Diseases, New York, 1888, p. 482: "That a persistence of epileptic attacks for years does not necessarily render recovery impossible is proved by the fact that I have personally had three cases where convulsive seizures have been thus far arrested by tenotomies which I performed upon the eye muscles. All of these cases had been kept constantly under bromides for several years without apparent benefit before they were placed under my care. Over a year has now elapsed since two of them have taken any drugs or have had an epileptic fit, and the third has passed several months without an attack." The author does not expressly say that these cases are "cured," and very wisely, for any one familiar with the natural history of epilepsy knows that (1) in some rare cases inexplicable long intervals occur without treatment; (2) that a case should not be reported as cured until at least five years have passed without *any kind of epileptic seizure*, not merely convulsive ones.

‡ *Vide* Report of Commission (a non-official and imperfect report) in Journal of Nervous and Mental Diseases, November, 1889.

(*a*) Subjects vary greatly in their capacity for resisting bromides. I have known unpleasant bromism produced in an adult woman by thirty grains a day for a week or two; while, on the other hand, I have given as much as one hundred and fifty grains *per diem* to a girl fifteen years of age, and to one strong youth of twenty, from one hundred and sixty to two hundred grains *per diem*, with no marked bromism. These extremes teach caution.

(*b*) Children, little children particularly, bear much larger doses of bromides proportionately than adults (as is the case with the iodides). Many epileptic children of from two to six years will need between forty and sixty grains *per diem* to arrest attacks; and take these quantities without bromism. The salt is probably absorbed more quickly and excreted more thoroughly than in adults.

(*c*) There is a certain proportion, in adults, between the size and weight of the patient and his capacity for resisting drugs. The lady I have referred to as having been brominized by thirty grains a day was much below the usual size and delicate in every way. This rule is one which is followed in physiological experiments on animals; in modern researches the weight of the animal experimented on is always noted. There are exceptions to the rule, but it is of some help in giving your first directions.

(*d*) The existence of organic cardiac disease, or of simply feeble heart with a sluggish, relaxed state of circulation, generally decreases the ability to withstand bromides; hence the necessity of examining your patient's heart and arteries before prescribing, and of occasionally combining digitalis with the bromides.

(*e*) Organic cerebral disease of any sort increases susceptibility to bromism; hence in cases of symptomatic or organic epilepsy, in which you should always give *some* bromide while the rational indication treatment is being carried out, you should be extremely cautious; bromism may supervene with moderate doses, sometimes very rapidly, thus blurring the diagnosis and leading to a premature fatal prognosis.

(*f*) Acne should never serve as a guide to the dosage of bromides. Its appearance does not depend as much upon the quantity of the drug given as upon peculiarities in the patient, as, for example, an unhealthy state of the skin with over-development of the sebaceous glands, and deficient excretion of the bromine by other channels. Just as with iodides, a patient may have much acne while taking small doses of bromides, and *vice versa*. In some persons, fortunately, the acne shows most on the back and chest. Acne can be much controlled, though rarely entirely prevented, by giving the drugs according to my method of large dilution in alkaline water, and by administering full doses of arsenic from time to time. We occasionally meet with individuals who develop extremely severe acne of the confluent form, giving rise to the condition I have termed ulcus elevatum,* more especially on the legs and arms. In such cases we should substitute some other anti-epileptic medicine in a way to be detailed further on.

(*g*) Impending bromism is indicated by loss of reflex action in the palate and throat (and we should aim to obtain this effect in all epileptics), somnolence during the day, weakness, staggering gait, a dull, expressionless facies, partial aphasia, partial dementia, increasing knee-jerk, feeble cardiac action and reduced arterial tension, a peculiar foul breath, coated tongue, and anorexia. In the more advanced stages, hallucinations with associated delirium (sometimes active), increased difficulty in speaking, heavily coated brown tongue, and a typhous state appear. Death may ensue. In a subsequent lecture I shall dwell at some length on bromism as a factor in diagnosis and prognosis. In the treatment of idiopathic epilepsy we aim to keep up a slight degree of bromism, and this requires extreme care in the first dosage and in directing the necessary variations in doses from time to time afterward. I may be mistaken, but I consider it one of the most delicate tasks in medicine to keep a patient steadily at the point of therapeutic bromism for several years, avoiding truly toxic effects, and not allowing the nervous apparatus to re-acquire enough excitability to permit of an attack. In some cases we can never attain this happy mean, something in the patient's condition or in his mode of life causing inexplicable oscillations.

A frequent objection to bromide treatment by parents is that it tends to produce dementia and insanity. The reply to this is that scores of years before the bromides were used in medicine it was known that dementia and insanity were frequent results of the disease—its termination in many cases. This danger is inherent in the disease, and I do not believe that more epileptics become demented now than did fifty years ago; probably fewer, as we certainly control the disease and almost cure it much more often than our predecessors. A judicious bromide treatment does not, I firmly believe, produce or hasten dementia in epileptics.

(*h*) Now let us consider the choice of bromide and method of administration. My own conclusion, based on a good deal of experimenting, is that it is best to use a single bromide and to administer it simply dissolved in water. I have failed to become convinced that there is much difference in the anti-epileptic action of the different bromides,† or that there is any advantage to be gained by combining them. The bromide of sodium has seemed to me less irritating to the gastro-intestinal tract, and, when freely diluted, it presents the advantage of being almost tasteless. In using bromide of potassium we have, besides the bromic effect, a depressing influence upon the heart from the potassium. Many years ago I gave up the complex formulas which were then in vogue (*e. g.*, Brown-Séquard's celebrated mixture, etc.), and wrote for a simple watery solution. Having many cases to treat in clinic and private practice, I resolved to adopt a standard solution so calculated that one teaspoonful should contain about fifteen grains of the bromide (single or combined). This formula has remained useful since I adopted, years ago, the metric system; one teaspoonful contains about one gramme. By means of such a formula I have found it easy to follow up the systematic treatment of many patients. The doses can, of course, be varied infinitely between extremes simply by directing so many teaspoonfuls or half-teaspoonfuls to be taken in the day, and if the patient (often seen only at long intervals) tells or writes you how many teaspoonfuls he has been taking, you can at once calculate the quantity of bromide which is being used without referring to records or prescription-stubs. I see no reason to regret having adopted this plan, and can cordially recommend it to you. The formulas are:

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* Opera Minora, p. 629.

† If there is any theoretical chemical difference it is in favor of sodium bromide, one atom of which contains seventy-eight per cent. of bromine, while potassium bromide contains only fifty-three per cent.

Apothecaries' Weight.

℞ Sodii bromidi.................. ℥ ss.;
Aquæ...................... ℥ vij.

One teaspoonful contains about fifteen grains of the salt.

Metric Weight.

Sodium bromide........... 45·00;
Water..................... 200·00.

One teaspoonful contains nearly one gramme of bromide.

The calculation is based upon the assumption that ℥ vij, or 200 grammes, contain from forty-seven to forty-nine teaspoonfuls.

The small errors which occur in such formulas, and such as arise from awkward or careless measurement by the patient, can only amount to one or two grains per dose, and are of no special importance, because you feel your way along with increasing or decreasing doses until the desired effect is obtained. As it is, however, extremely important that the same measure be constantly employed by a patient during the course of his treatment, I usually direct that a measuring or medicine glass, clearly marked in teaspoonfuls, be used, because teaspoons vary a great deal.

Accessory medicines, such as belladonna, arsenic, digitalis, nux vomica, etc., I almost always give by separate prescriptions, so that their doses may be varied independently. With reference to the vehicle, I may say that I have been thanked numberless times by patients for omitting syrups, bitters, and even flavored water from the prescription. Of course, any of the common soluble bromides may be given by the same formula. The bromide of zinc and monobromate of camphor are better administered in capsules.

(*i*) Perhaps the greatest peculiarity in my method of giving the bromides has been to insist on large dilution of the dose. I believe that much of the gastric irritation reported by physicians as obstacles to a thorough bromide treatment is due to the giving of from twenty to forty grains of bromide in an ounce or two of water. I have met with patients who by direction used only an ounce of water with each dose. I direct that the smaller doses, say up to thirty grains, be given in half of a large tumblerful of water, and the larger doses, from thirty to sixty grains, in a big tumblerful; to be drank slowly in all cases. At this degree of dilution the salty taste of the drug is hardly perceived, and I believe that it is most quickly absorbed even by a delicate stomach. At least I can state it as a fact that I have seldom had gastric derangement in my epileptics.

As regards a choice of liquids for dilution, ordinary drinking-water will do, but I believe that a slightly alkaline water favors the rapid and easy absorption of the remedy, and prevents its decomposition in the stomach. Consequently I usually order the dose to be taken in artificial Vichy water (siphons), or in Buffalo or Londonderry lithia waters.* Where a more decided alkaline effect is desirable, imported Vichy water ("Celestin" or "Hôpital" best), or the still lithia water made by the Hygeia Company, of New York, which contains a useful amount of carbonate of lithium—viz., twelve grains to the U. S. gallon of distilled water, or 1 to 5,000.† For poor or clinic patients I direct that a pinch (a quarter of a teaspoonful) of bicarbonate of sodium be added to the glass of water. The bromides may be administered in milk, and I frequently order this in the case of little children.

(*j*) Time of administration. This varies more or less according to the nature of the case in hand, and you should choose the hours of giving the bromide only after a careful study of the symptoms, particularly as to the chronology of the attacks. It is partly for this purpose that during the first two or three interviews with the patient you should endeavor, with the help of his relatives or companions, to construct a table of the attacks which have preceded the first interview, so as to have, as far as possible, a graphic representation of the order and frequency of attacks. This can seldom be done except for a few days or weeks prior to the first visit, because of want of any record and imperfect recollection by patient and friends. However, as the case progresses under your care, such a diagram is gradually constructed and proves of much help in practice. My first general rule is to give as few doses *per diem* as possible. This is partly to make punctual taking more easy, partly not to interfere with the patient's occupation or school work, and also in some cases to keep the treatment concealed from those out of the family circle. A second rule is to give most, or even all, of the bromide destined to influence the patient for twenty-four hours at a time within four to six hours of the time when attacks are most likely (judging by the record) to occur; very much as we give quinine for intermittent fever. In a few cases all attacks occur in the night, between 10 P. M. and 7 A. M. In such cases it has been my practice to administer all the day's bromide at one dose of forty, sixty, eighty, or even over a hundred grains, properly diluted, at some time during the evening—between immediately after the evening meal (7 or 8 P. M.) and midnight. In some cases, where the seizure is most probable just before rising, I have the patient roused at 2 or 4 A. M. to take part or the whole of his dose. In many cases both diurnal and nocturnal attacks occur distributed with some regularity; and in these I give the larger part of the total daily dose from four to six hours before the most dangerous time. Thus it is very common for me to order (to an adult male patient) two teaspoonfuls (= 30 grains) of the bromide solution on rising, and two or three, or even four, teaspoonfuls after supper, or *vice versa.* This often suffices to keep up a varying degree of therapeutic bromism, deepest during that half of the day when attacks are most to be apprehended. In some cases no sort of regularity can be ascertained; attacks are liable to occur at any time. Then the bromide must be given three times a day in about equal doses.

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* For more details on the utility of alkaline waters as a vehicle for certain remedies, see Archives of Medicine (New York), vol. vi, August, 1881, and Opera Minora, p. 529.

† We still need from our enterprising manufacturers a supply of pure (distilled) waters, "still" and sparkling, containing *efficient* quantities of remedies, such as lithium and potassium carbonates, arsenic, iron, etc., singly or in combination.

The first dose of the day I almost always direct to be taken on waking, in order to secure a bromic influence as early as possible in the day. It should here be remarked that while this early dose largely diluted is very acceptable to and easily absorbed by most patients, it occasionally causes gastric irritation, and must be postponed until the patient shall have had some food. Other doses during the day I always give after food, except, of course, the bedtime dose.

A small point of practical importance which I might mention here is that a dose of Carlsbad salts, or drops of nux vomica, may with great advantage be given with the early morning dose to many patients.

In the case of patients who are obliged to travel about, and in those who need only one dose at bedtime, it is well to have the bromide put up in powders of the proper size. Sodium bromide is sometimes deliquescent, but this difficulty is obviated by using waxed paper, and keeping all the powders in a tightly closed tin box. In the same cases effervescent salts of lithia or potash may be used to make the alkaline solution at the time of taking.

(*To be continued.*)

Original Communications.

A CASE OF CENTRAL ABSCESS OF THE BRAIN, WITH SOME REMARKS UPON ITS RELATION TO CONTUSION.*

By CHARLES PHELPS, M. D.,

SURGEON TO ST. VINCENT'S AND TO BELLEVUE HOSPITALS.

The following history of a cerebral abscess is reported in the hope that it may be of use in the study of a disease so obscure in its inception and progress, and in general so disastrous in its termination:

John Bernari, an Italian laborer, thirty-four years of age, suffered a compound, comminuted, depressed fracture of the skull, situated just above and behind the right ear, and produced by the falling of a fire-proof brick from the fourth story of a building upon which he was at work. This happened October 16, 1889, and he was the next day admitted to St. Vincent's Hospital. He was then bleeding from the right ear, but was conscious, rational, and without paralysis, anæsthesia, or other general symptom. He was submitted to operation a few hours later by Dr. P. Beekman, house surgeon. The trephine was used, some small fragments of bone removed, and a large circular disc, from an inch to an inch and a half in diameter, was elevated. A bent probe, passed through the opening made by the trephine and swept around under the calvarium, failed to detect any further depression of the internal table. The dura mater was uninjured, either by the violence inflicted or in the course of the operation. The wound was closed and drainage made by horse-hair. Primary union followed, and the granulations at the drainage exit cicatrized without purulent formation. The hæmorrhage from the ear ceased on the second day, and for a week there were no general symptoms, the temperature falling gradually from 100·4° to normal. On the eighth day the temperature rose to 101·4°, and there was slight rigidity of the neck with an enlarged and painful lymphatic gland which was discovered to have existed in the back of the neck for two or three days. An examination of the ear showed rupture of the membrana tympani. By the seventeenth day all symptoms of cervical trouble had disappeared, the temperature had again gradually fallen to normal, the wound had entirely healed, and there were no symptoms, either local or general, of impending danger. Two days later he obtained surreptitiously and drank a bottle of red wine, and the next day he was heavy and complained of frontal headache. This apparently trivial disturbance in his condition, which was attributed to the wine he had taken, shortly disappeared and he felt well till after another two days, when, November 8th, he began to manifest symptoms of an alarming character. He suffered severe frontal headache, became delirious, somnolent, and by nightfall hemiplegic. On November 9th he had almost complete paralysis and anæsthesia of the left side, but no paralysis of any part of the face. His left eye was injected, and both pupils, though movable and of normal size, were sluggish and insensible to light. Pulse slow (56), and temperature 98·6° F. He was inclined to be heavy and somnolent, but could be readily roused, and his mind was clear. The cicatrix of his wound was firm and uninflamed.

November 10th.—The paralysis and anæsthesia of the left arm and leg were more profound and he had unconscious and involuntary evacuations from the bladder and rectum. His pulse remained slow (60) and his respiration normal, but his temperature rose to 100·2° and he was roused with difficulty.

The existence of anæsthesia with the paralysis of the left arm and leg, coincident in time of occurrence, indicated deep rather than cortical lesion of the motor area, and implication of the sensory tracts. On the afternoon of November 9th, when I first saw the patient after the supervention of serious symptoms, I expressed the opinion that his condition was the result either of cerebral abscess or of acute and rapidly extending cerebral softening, and decided to reopen the wound. I was compelled by circumstances to defer the operation till the next day, when it was done by Dr. Beekman and myself.

Operation.—The crucial incision at the site of fracture was reopened under ether and the dura mater disclosed intact and pulsating in the cranial opening. An incision then made through the dura mater was followed by no escape of pus, and the surface of the brain appeared of normal consistence. A small probe was carried downward and forward through the cerebral substance apparently through a sinus, but really through a corner of the abscess, to a depth of an inch and a half without result. A large probe with bulbous extremity, then carried as nearly as possible in the same track, fell into the abscess cavity, from which reddish pus and disintegrated brain matter escaped, apparently to the amount of one or two drachms. The cavity was scraped and washed out, a drainage-tube inserted, and the wound closed.

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* Read before the Society of the Alumni of Bellevue Hospital, January 8, 1890.

The patient was anæsthetized with unusual facility, and, when very soon there began to be a little flapping of the cheeks in respiration, the ether was discontinued, though there were no other indications of danger. Some time later his respiration became slower and suddenly ceased, but was restored by the inhalation of nitrite of amyl. A few moments afterward it again stopped, and drawing the tongue forward, with the use of nitrite of amyl, the galvanic current, and artificial respiration, alike failed to restore it. These measures of relief having been for some time vainly employed, and the pulse continuing to be fairly good, tracheotomy was finally resorted to, and natural respiration almost immediately followed the access of air to the trachea. The patient reacted fully after free hypodermic stimulation. At 8 P. M., temperature 103·2°, pulse 120; 12 P. M., temperature 105·6°, pulse 130; 2 A. M., temperature 106·6°, pulse 150; 3 A. M., temperature 107°, pulse 148; 4 A. M., temperature 108°, pulse 160. He remained unconscious, with strongly contracted pupils, and at 6 A. M. he died, sixteen hours after operation.

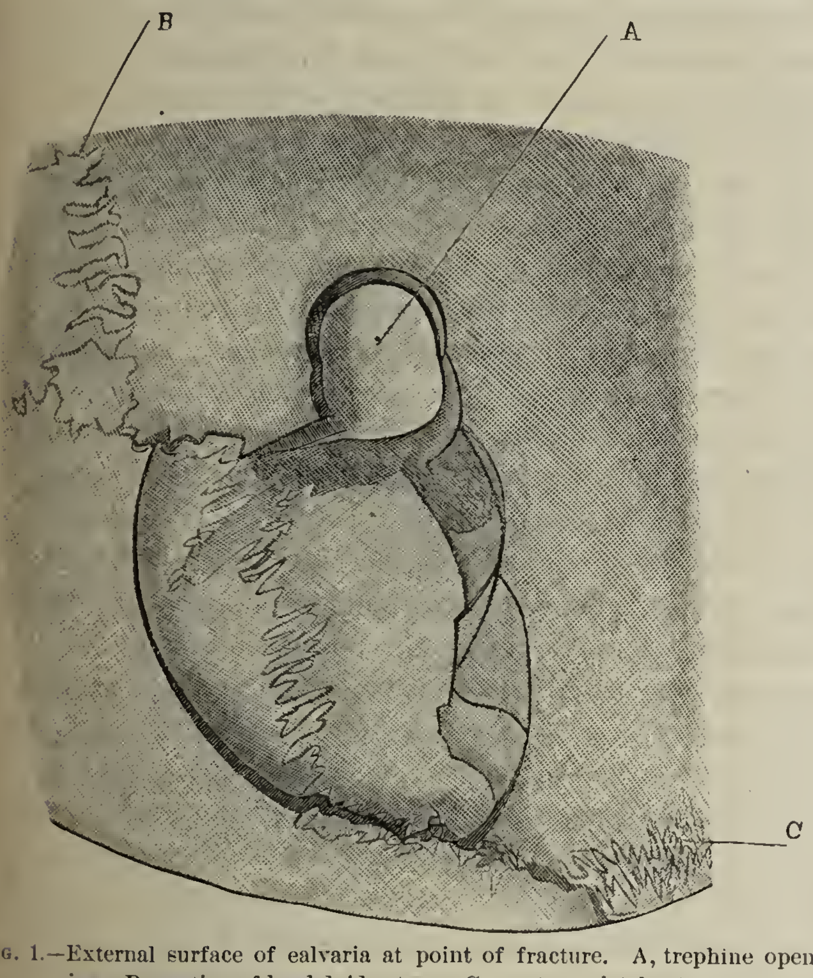


Fig. 1.—External surface of calvaria at point of fracture. A, trephine opening; B, portion of lambdoid suture; C, masto-parietal suture.

Autopsy six hours post mortem: Body well nourished; rigor mortis slight. The calvaria was thin and translucent in nearly its whole extent. The depressions occupied by the Pacchionian bodies were large and extended nearly through its substance. The fracture included the whole postero-inferior portion of the right parietal bone. The depressed, somewhat circular disc, which had been elevated, extended into the occipital bone, including the outer half of the lambdoidal suture, and by its inferior border terminated in a fissure which was prolonged through the whole length of the petrous portion of the temporal bone, running along its anterior surface parallel to its superior border. This disc involved both tables of the bone, and was two inches by an inch and a half in its principal diameters. On the antero-superior border of its under surface a piece of the inner table, an inch in length by three eighths of an inch in its greatest width, was depressed an eighth of an inch. On its posterior border a curved rim of the inner table, an inch and a quarter in length by a quarter to an eighth of an inch in breadth, projected sharply from its surface along the line of fracture. Otherwise the disc had been restored to its proper position. There was no extravasation of blood at the base of the brain or elsewhere. There was no serous effusion under the arachnoid, and no opacity of that membrane except a very little near the site of fracture. All the meningeal and cerebral vessels were intensely congested. There were no indications either of cerebral injury or of meningeal inflammation near the fissure at the base.

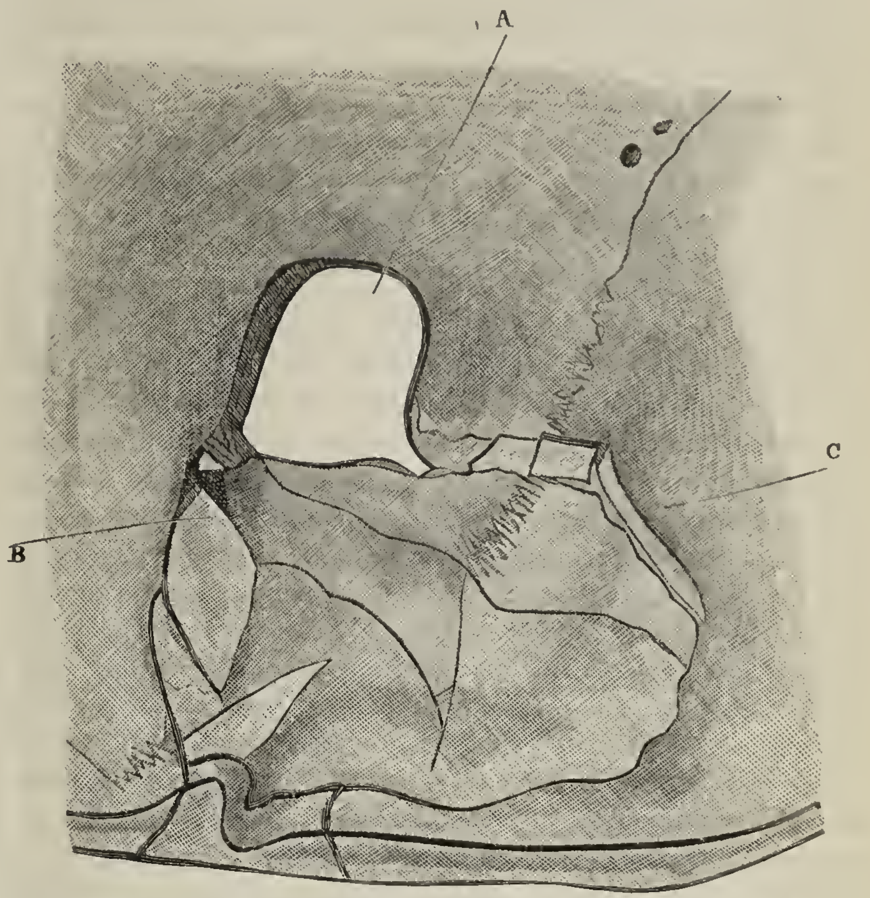


Fig. 2.—Internal surface of calvaria at point of fracture. A, trephine opening; B, C, portions of internal table slightly depressed.

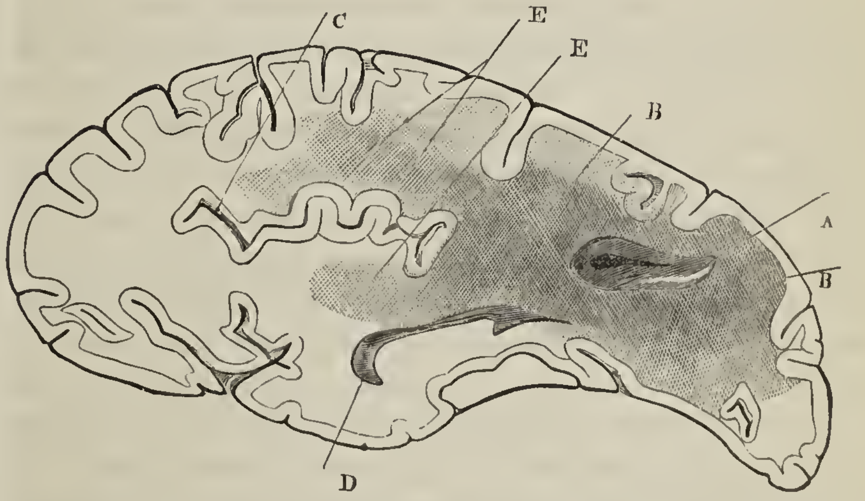


Fig. 3.—Section of the brain showing abscess cavity and area of softening. A, abscess cavity; B, area of softening gradually disappearing at E; C, section of convolution of central lobe (island of Reil); D, section of lateral ventricle.

I am indebted to Dr. H. M. Biggs, the distinguished pathologist of the Carnegie Laboratory, for the following memorandum of the pathological changes in the brain:

The dura and pia mater were adherent to each other over a small area in the posterior and inferior portion of the parietal lobe on the right side, corresponding in situation to the site of fracture of the skull. In this area the meshes of the pia mater were infiltrated with blood, and in the fresh condition there was apparent externally a puffiness that indicated an area of softening beneath and that extended forward for about six centimetres. On making an oblique longitudinal section of the brain after hardening in alcohol (the plane of this section running downward and inward), an abscess cavity was found which communicated with the surface of the brain at the point where the adhesions before referred to were most marked. This point was situated at the trephining opening in the skull near the junction of the parietal and occipital lobes in the angular gyrus. (This communication was made by the probe which was passed into the abscess during the operation.—C. P.) In this vicinity the abscess approaches nearest to the surface, but is from a quarter to half an inch distant. The abscess has a pretty well defined wall and the cavity broadens out as it grows deeper. It extends forward and inward toward the median line for about four centimetres from the surface, while its antero-posterior diameter is about two centimetres and a half, and its vertical diameter scarcely more than one centimetre. Around the abscess cavity is a wide area of softening. That part lying between the abscess and the surface of the brain at the point where the adhesions above referred to were most marked is slightly hæmorrhagic in character and seems to be older than the remainder. The softening extends in front of the limits of the abscess above, and slightly below the lateral ventricle, and above and below the convolutions of the island of Reil forward to near the junction of the anterior with the middle third of the hemisphere. The softening in front of the abscess cavity is evidently recent, and it cuts the motor and sensory fibers in part on their way from the cortex, and in part after their passage through the internal capsule of the basal ganglia.

I desire to emphasize the fact that the exterior of the brain was examined with great care, not only at the time of the autopsy, but in the course of the two operations which preceded death. After the use of the trephine, and again when the abscess was evacuated, both Dr. Beekman and myself, after minute inspection, were thoroughly satisfied of the integrity of the dura mater. In the second operation, after incision of the dura mater, we were equally concerned to discover some area of softening or some minute opening which might lead into the cavity of the abscess. Failing in this effort, the probe was pushed for a short but still perceptible distance through firm cerebral substance before entering the abscess cavity. The opening thus made, as is shown by the post-mortem examination, is the only communication which the abscess has with the surface of the brain. The evidence, therefore, that this abscess has no topographical connection with the fracture of the skull is positive. The precision with which it was entered was quite accidental, as there was no reason for selecting any particular point for the insertion of the probe. It was supposed if abscess existed that it was large, and that, recognizing its general situation as indicated by the previous symptoms and the general direction which must be taken to reach it, any point within the area disclosed by the trephine would serve the purpose.

Abscess of the brain is a comparatively rare disease. In my service at Bellevue, extending over a number of years, I have met with no cases. I have had no time to examine the general records of the hospital. In a total of two hundred and twenty-seven fractures of the skull admitted to St. Vincent's Hospital during the last ten years, in which one hundred and twenty-nine patients survived the immediate effects of their injuries, only three cases are recorded. One of these was superficial, at the site of the fracture, and in conjunction with laceration of the brain and dura mater. The other two were formed deeper in the substance of the brain, without lesion of the dura mater, and the fracture was limited in one case to simple fissure and depression of the outer table, and to moderate depression of both tables in the other—the case just detailed. Two or three other cases of which I have been cognizant similarly differed from each other. If this is generally true, abscesses of the brain following fracture might be conveniently classified as of two kinds—superficial and central—those occurring at the site of injury, usually with laceration of the brain and dura mater, and those occurring at a distance, where the fracture has been uncomplicated.

In the second class some additional and coincident cause must operate, as it unquestionably does in cases in which abscess follows traumatism, and where, before post-mortem examination, no injury of the skull is found to exist. Such a case occurred in my service at St. Vincent's in 1880, in which a woman with a contused scalp wound in the left occipito-parietal region and fracture of the radius from a fall died eighteen days after admission, and an abscess of the size of a walnut was discovered in the center of the left cerebrum, without other cerebral or cranial lesion. Instances of abscess following traumatism without even wound of the scalp are of common occurrence. Dr. Biggs, of the Carnegie Laboratory, possesses such a specimen of extraordinary size, occupying almost the whole anterior lobe, following a blow received upon the ball-field.

Still another case, in which fracture did occur and which came into my service at Bellevue in October last, indicates what the coincident and distant lesion may be, though death ensued too early for the formation of abscess. The fracture, which was produced with such violence as to literally separate from each other the three portions of the temporal bone—the squamous, petrous, and mastoid—was attended with no considerable injury of the corresponding cerebrum, while upon the surface of the other hemisphere, at a point directly opposite, there was a contusion and laceration, nearly three inches long by an inch and a half wide, surrounded by miliary extravasations and discoloration.

Very like the latter case was that of a man, said to have fallen from his truck, who came into my service at St. Vincent's at about the same time. He exhibited no evidence of injury of the head, was considered alcoholic, and immediately left the hospital, refusing treatment. On the next day he demanded his truck from his employer, who withheld it from him on the ground that he was "too crazy to be trusted." Before night his dead body was taken from the river, into which he had fallen. Upon autopsy, a fracture was found to extend from the foramen magnum to the left parietal eminence, and the surface of the temporo-sphenoidal lobe of the opposite side was lacerated and contused.

I am informed by Dr. W. T. Jenkins, of the coroner's office, that contusions from *contre-coup*, both with and without fracture, are often observed by him in his official examinations, and when the fracture has been simple and the subjects have survived for a time, they have generally been considered cases of alcoholism. Out of the multitude of so-called "alcoholics" without a history brought into the hospitals who recover, or who die without autopsy, it may be fairly assumed that there are many fractures and central contusions which escape the hospital records.

There is no lack of evidence that contusion of the brain in its various forms and degrees is of frequent occurrence, and though death, or happily the recovery of the patient, in far the greater number of instances anticipates suppuration, in the exceptional, procrastinated, and insidious cases in which abscess has formed, contusion seems the rational and probable explanation.

From the post-mortem examination of the brain in Bernari's case, contusion is the demonstrated cause of abscess and death. There was no injury of the dura mater and none of the brain at the site of fracture, nor was there lesion of the brain or of its membranes at the base to which the fissure had penetrated. It will also be noted that, though some depression remained unrelieved, it was confined to points quite posterior to the central lesion. Though the abscess, which was small, was surrounded by a larger area of softening, it at no point reached into the cortical substance, and was mainly developed anteriorly and still farther away from the fracture. These lesions were not only anterior to the fracture, but were separated from it by unaltered cerebral tissue. The intervention of healthy brain between the altered structures and the site of fracture proves that the original injury was not from direct violence. If we accept the law of dependence of cerebral abscess upon traumatism, there seems no other explanation of Bernari's abscess than contusion by *contre-coup.*

The inclusion of the abscess by a comparatively thick wall would at first seem to indicate that it did not cause the later softening, but that both were the result of a common original cause, acting at different periods and under different circumstances with different results. There are, however, no evidences of antecedent changes from contusion, and it is inconceivable that such sudden and complete destruction of tissue should occur without the action of some tangible force. I confess an inability to understand how pyogenic germs from external sources without superficial solution of continuity find their way to internal structures to produce abscess. But, conceding the existence of such germs in an abscess cavity, it is quite conceivable that they should pass through its imperfectly developed wall, or that they should escape through the blood-vessels or lymphatics and should have their course directed back to the contiguous tissue, which has been altered in its nutrition by the abscess pressure.

It may be remarked parenthetically that the nature of his accident would suggest a greater amount of direct crushing injury, and perhaps superficial laceration by *contre-coup.* The brick falling through a long distance in this instance, however, was not of the ordinary kind, but of less density and permeated by air-chambers. It is also possible that the thinness of the skull may have contributed to its elasticity so that it fissured rather than gave way beneath the blow, and that the same elastic property may have determined the central injury rather than superficial laceration.

How far contusion by *contre-coup* has been insisted upon, if at all, as the initial lesion in central abscess, I am uninformed. It is at least certain that such indirect injury is worthy of more careful post-mortem investigation where death has resulted from injuries of the head, or from apparent alcoholism with obscure or unknown history. From the necessary haste with which coroners' and hospital autopsies are often made, it is not strange that sufficiently minute observations to detect central contusions fail to be made, or that, when grosser superficial lesions adequate to explain the result are discovered, the examination goes no further. If to this be added the want of pathognomonic symptoms of contusion, the frequently slight indications of any sort of cerebral trouble till the final cataclysm comes, and in many cases the absence of any history whatever, the lesion, if found, loses its significance to the observer. It is still true, nevertheless, that if we are ever to recognize the early symptoms of contusion passing into abscess, to compass the diagnosis in time to be of any service to the patient and to determine any adequate treatment, it must be by minute and methodical investigation, both before and after death, and extending over a great number of cases.

This history presents one or two additional points of interest.

There seem to have been no tangible symptoms produced by the abscess while in process of formation. In its encapsulated condition, like many other abscesses, it might have remained indefinitely harmless and quiescent. The sudden paralysis and anæsthesia occurring in the last days of life were evidently due to the cutting of communication by giving way of the softened fibers in the centrum ovale. As the motor centers were not invaded, there was no indication of what was in progress till the mischief was complete and interference hopeless.

The pulse and temperature up to the time of operation again illustrate the slight constitutional reaction which may attend the process of localized suppurative cerebritis, and may be taken as merely the expression of an axiomatic fact. The excessive and progressively increasing temperature from that time up to the death of the patient is a fact which may yet prove to be explicable at the hands of cerebral physiologists.

That part of the fissure which extended through the petrous portion of the temporal bone may be said to add one more to the demonstrated cures in fracture of the base. The continuance and amount of the hæmorrhage had, with the general direction of the fissure, led to the diagnosis of basilar fracture early in the history of the case. The absence of clot at the base post mortem, the healthy condition of the contiguous bone, brain, and membranes, and the period of time which had elapsed, seem to have precluded further danger from that particular cause. Of the one hundred and four cases recorded at St. Vincent's, eleven, or more than ten per cent., are reported cured, and some of these I know personally to be founded on careful observation and well-grounded evidence. Recovery may be regarded as not infrequent. I have seen one other post-mortem specimen, and in that, occurring long after injury, the irregular and consolidated line of fracture was plainly visible.

If this case of Bernari presents nothing which is quite new, it clearly and well presents many of the things which are old, and points to the solution of the first difficulty of the many in the way to a better understanding of the whole subject of cerebral abscess.

SODIUM SULPHITE IN THE TREATMENT OF SCARLATINA.

By THOMAS A. ELDER, M. D.,

SEATON, ILL.

In a paper, with the title Upon the Therapeutical Value of the Sulphites in Phlegmonous Angina, read before the Sacramento Society for Medical Improvement, by Gerrard George Tyrrell, L. R. C. S. I. and K. and Q. C. P. I., and republished in the Chicago Medical Journal, vol. xxvii, No. 9, 1870, he sums up as follows:

"First, that acute tonsillitis, or phlegmonous angina, and the membranous angina of Trousseau—diseases as closely allied as possible—are zymotic in character, and as much constitutional diseases as scarlet fever or diphtheria. Secondly, that, as zymotic in character, they are amenable to treatment by anticatalytics, when properly and persistently administered. Thirdly, that in the bisulphite of soda we have a safe and efficient agent in the treatment of such diseases, and presumptive proof that, when administered early in all diseases of like zymotic character, it will prove as efficacious as in the diseases under consideration this evening. And, lastly, that, when given under the circumstances proper for their administration, the sulphites are perfectly harmless in their effect, seldom producing vomiting or disorder of the bowels, and, if at any time they seem inefficient to arrest retrograde metamorphosis, they leave the patient in no worse condition than before."

Having recently passed through an epidemic of scarlatina, in which I exhibited the sulphites according to Professor Tyrrell's directions, I present to your readers the notes of cases, with a few short comments, in the belief that any treatment which may rob this scourge of childhood of any of its fatality and sequelæ will be received as of value.

Case I.—Grace H., aged six, September 11th, 2 p. m., got up yesterday morning sick at stomach; had sore throat and fever yesterday. Characteristic rash all over body and limbs, with scarlet blush all over body. Rash began to appear at 9 a. m. to-day. Pulse, 160 to 200; temperature, 103°; tonsils inflamed, tumefied, with exudation. ℞ Sodium sulphite, gr. v, every hour; cold compresses to tonsillar regions; tepid baths and oilings.

12th, 9 A. M.—Pulse, 160; temperature, 100·2°.

13th, 9 A. M.—Pulse, 120; temperature, 100·5°; scarlet blush gone; rash fading; tonsils swollen and red, but exudation gone. ℞ Potassium chlorate gargle.

14th, 9 A. M.—Pulse, 80; temperature, 98·6°. ℞ Sulphite every two hours; gargle as before.

15th, 9 A. M.—Pulse, 90; temperature, 98·6°; tonsils much better. ℞ Sulphite every two hours; chlorate gargle continued.

Case II.—Ida H., aged five, September 14th, got up sick—vomiting; throat sore; tonsils congested; hands cold; pulse, 112; temperature, 98·6°. ℞ Potassium chlorate gargle.

15th, 9 A. M.—Father reported her last evening as still sick and having fever. Gave her then sulphite, gr. x, every hour. At this hour, pulse, 112; temperature, 98·6°; no rash. Sulphite every hour to-day, every second hour to-morrow. No rash appeared.

Case III.—Ernest E., aged eleven, September 11th. He came home from school last evening feeling unwell and with sore throat and fever. At 11 p. m. his mother called and got medicine—potassium chlorate and quinine gargle, and tincture of aconite-root and sweet spirit of niter. At 3 p. m. to-day his mother called and said that a rash began to appear about noon. I visited him and found him covered with the characteristic rash, and with a deep blush all over him. Tonsils and fauces congested, swollen, and covered with exudate. Pulse, 124 to 130; temperature, 103·2°. ℞ Sodium sulphite, gr. x, every hour; other medicine also continued.

12th, 8 A. M.—Pulse, 120; temperature, 102·2°; 9 p. m., pulse, 132; temperature, 102°; rash fading; salivation.

13th, 8 A. M.—Pulse, 92; temperature, 100·5°; scarlet blush gone; rash fading; tonsils red and swollen, but about clear of exudation. Febrifuge omitted.

14th, 8 A. M.—Pulse, 80; temperature, 99·6°; mucous membrane of tongue has exfoliated.

15th, 8 A. M.—Pulse, 60; temperature, 98·6°; rash nearly gone. ℞ Sulphite every second hour to-day; chlorate gargle until throat is well.

Case IV.—Ray E., aged nine, September 19th. Got up sick this morning. Tonsils congested and sore; pulse, 108; temperature, 101·5°; no rash. ℞ Sodium sulphite, gr. x, every hour; chlorate gargle; warm bath.

20th, 9 A. M.—Rash began to appear on body about noon yesterday, and has spread over whole body and limbs; there has been no scarlet blush; tonsils tumefied; follicles studded with exudate, but not much congested. Pulse, 108; temperature, 98·6°. ℞ Continue sulphite every hour until bedtime; every second hour to-morrow and next day; continue chlorate gargle.

Case V.—John H., aged two, August 30th. Deep scarlet blush all over; throat sore; very hot. ℞ Sodium sulphite, gr. vij, every hour.

31st.—Blush gone; no rash; free from fever; lively.

Case VI.—Babe H., aged seven months, September 16th. Mother brought it to office, covered with scarlatinal rash. ℞ Sodium sulphite, gr. v, every hour. In two days the rash was gone, and it had no further trouble.

Case VII.—Babe G., aged sixteen months. Reported covered with rash, as in Case VI. ℞ Sodium sulphite, gr. v, every hour. Reported to be well in three or four days.

Case VIII.—Blanche C., aged eleven, October 6th. Got up sick; headache, chilliness, and sick stomach. Mother called at 3 p. m., and said Blanche had one of her severe attacks of tonsillitis. ℞ Chlorate of potassium and quinine gargle; tincture of aconite-root and sweet spirit of niter. Solution of tincture of chloride of iron (1 to 4) to tonsils by applicator every two or three hours.

7th, 8 A. M.—Tonsils very much swollen, and they and the uvula pend. pal. covered with diphtheritic exudate. Pulse, 120; temperature, 101°; no rash on skin, a little on posterior roof of mouth. ℞ Sodium sulphite, gr. xj, every hour.

8th, 9 A. M.—Rash began to appear at noon yesterday; now covers body and legs to knees. Tonsils almost close the rima glottidis; exudate as yesterday. Pulse, 140 to 150; temperature, 103·4°. Sulphite, gr. xiv, every hour. Febrifuge omitted; other medicine continued; bathe; oil.

9th, 7 A. M.—Tonsils and throat worse. Pulse, 140 to 160; temperature, 104°; onion poultices to sides of neck.

11 A. M.—Hot pack.

1 P. M.—Dr. A. L. Craig in consultation. Pulse, 160 to 180; temperature, 104·6°. Dr. Craig gave a very gloomy prognosis. Inasmuch as the sulphite did not seem to be acting satisfactorily, we agreed upon: ℞ Potass. chlorat., ʒij; quinin. sulph., ʒss.; tinct. ferri chlor., ʒij; acid. hydrochlor., ʒj; aqua, ℥ss.; syrup, ad ℥iv. A teaspoonful every hour. ℞ Whisky, a teaspoonful every hour.

9 P. M.—Gave her another pack at 3 P. M. Tonsils much the same; diphtheritic membrane appears to be softening and coming off. Pulse 160 to 180; temperature, 104·4°; throat to be swabbed every hour with iron solution, and the following powder blown in: ℞ Hydronaphthol, 10 per cent.; iodoform, 10 per cent.; acid. boric., 80 per cent.

10th.—Pulse, 112 to 120; temperature, 100·4°; fever began falling about midnight; tonsils much the same, exudate softening. Whisky every two hours.

1 P. M.—Pulse, 120; temperature, 100·4°.

8 P. M.—Pulse, 112; temperature, 100·4°. Whisky every three hours.

11th, A. M.—Pulse, 100; temperature, 98·5°.

8 P. M.—Same; whisky discontinued; acid mixture every second or third hour; medicine continued two or three days; no return of fever; rapid convalescence.

Case IX.—Mrs. C., mother of Case VIII, October 19th, 7 A. M. Throat sore, congested, no exudate; tonsils normal. ℞ Sol. tinct. ferri chlor., 1 to 4. Apply to tonsils every hour or two. ℞ Kerosene and water gargle.

7 P. M.—Pulse, 100; temperature, 99·8°. ℞ Sodium bisulphite, gr. xx, every hour.

20th, 8 A. M.—Throat very sore; tonsils and uvula very much swollen. Pulse, 112; temperature, 100·2°. Bowels have moved frequently during night. ℞ Paregoric, to control bowels.

5 P. M.—Pulse, 120; temperature, 103·8°. Throat sore, can hardly swallow; tonsils have been covered with exudate all day. Tendency to œdema of tonsils, uvula, and roof of mouth. Poultice to neck.

21st, 8 A. M.—Pulse, 132; temperature, 103·8°. The above parts more œdematous. ℞ Sol. potass. chlor., borax, alum, tannin, water, glycerin, and tincture of cinchona. Apply to affected parts every fifteen minutes with probang. ℞ Quinin. sulph., ʒj; acid. sulph. arom., ʒij; aquæ, ad ℥j. A teaspoonful every hour.

1 P. M.—Pulse, 120; temperature, 103·8°. Four doses—gr. xxx—of quinine having been taken, cinchonism produced, and no reduction of temperature effected; suspended quinine, also sulphite. ℞ Potass. chlorat., ℥ss.; aq. bul., ℥xij. A tablespoonful every hour. Hot pack. Whisky, ℥ss.; antipyrine, gr. x.

2 P. M.—Pulse, 120; temperature, 103·4°. To remain in pack and cool off gradually. Antipyrine, gr. x.

5 P. M.—Pulse, 112; temperature, 101·8°; otherwise no change. Antipyrine, gr. x. Chlorate and whisky continued as before.

8 P. M.—Pulse, 108; temperature, 102°. Antipyrine, gr. x, at 11.30.

22d, 7 A. M.—Pulse, 120; temperature, 102°. Throat not so œdematous, but still very sore and covered with exudation; sweat a good deal during night. ℞ Potass. chlorat., ʒij; tr. ferri chlor., ℥ss.; aquæ, ad ℥iij. A teaspoonful every hour. Warm pack.

1 P. M.—Was in pack three quarters of an hour; sweat freely. Pulse, 132; temperature, 102·5°. Little if any change in throat.

7 P. M.—Pulse, 132; temperature, 102·5°. Last prescription continued, and antipyrine, gr. x, at 10.30 and 11.30.

23d, 7 A. M.—Pulse, 132; temperature, 101°. Sweat freely after first powder. Four stools this morning. Paregoric to control bowels; left tonsil looks about ready to break.

1 P. M.—Pulse, 132; temperature, 102·5°. Has just been very much excited by confusion in the house. Spat up a good deal of pus shortly after my morning call. Abscess in left tonsil has discharged.

7 P. M.—Pulse, 128; temperature, 101·2°. Throat improving, tonsils shrinking. ℞ Potass. chlorat., ℥ss.; hydrarg. bichlorid., gr. ss.; aquæ, ℥iij. A teaspoonful every hour. ℞ Tr. digitalis, gtt. x, every third hour.

24th, 7 A. M.—Pulse, 116; temperature, 100·5°. Last prescription continued. ℞ Potass. chlorat., ʒj; hydronaphthol, gr. xx; tr. myrrh., ad ℥j. Apply to throat every hour with probang.

1 P. M.—Pulse, 128; temperature, 101·5°.

7 P. M.—Pulse, 120; temperature, 102°.

25th, 7 A. M.—Pulse, 120; temperature, 101°. Bichloride mixture every second hour.

7 P. M.—Pulse, 120; temperature, 102°; quinin. sulph., gr. vijss., at midnight.

26th, 7 A. M.—Pulse, 112; temperature, 100°. Leave off bichloride mixture. ℞ Elix. gentian and tr. ferri chloridi (Wyeth's), ℥iij. A teaspoonful every second hour until midnight.

7 P. M.—Pulse, 112; temperature, 100°. ℞ Quinia s., gr. vijss., at midnight.

27th, 8 A. M.—Pulse, 84 to 88; temperature, 98·8°. Pupils somewhat dilated, a little heaviness in frontal region; omit digitalis. Elixir every third hour.

7 P. M.—Pulse, 100; temperature, 98·8°. Rapid convalescence.

Case X.—Maud C., aged three, daughter of Case IX, October 19th. Taken with fever this morning. Throat sore; no rash. Evening very warm, full of rash.

20th, A. M.—About the same. Evening fever falling, rash fading.

21st, A. M.—Apparently free from fever, rash almost gone. Evening; has been up and dressed all day.

22d.—Seems to be well, except the throat, which is still sore. Gave her sodium sulphite, gr. x, every hour for two days, and gr. v for two days more. Convalesced nicely.

Case XI.—Katie L., aged five, December 15th, 4 P. M. Taken sick this morning; has had symptoms of spasms; face deeply flushed, high fever; pulse, 180; tonsils greatly swollen, and they and the fauces very red. ℞ Ipecac, emetic. ℞ Potass. chlor., ʒj; cinchona salts, gr. v; tincture of aconite-root, gtt. x; water, a tumblerful. A teaspoonful every fifteen minutes.

16th, 10 A. M.—Covered with rash, not very distinct; no efflorescence. Pulse, 160; temperature, 103·4°. A little exudation on tonsils. Above solution continued, and sodium sulphite, gr. viij, every hour; bathe two or three times a day with warm water, and anoint with bacon-skin.

17th, 10 A. M.—Pulse, 132; temperature, 102°; respiration, 25. Sulphite increased to gr. ix.

18th, 10 A. M.—Pulse, 140; temperature, 102·5°; respiration, 27. Throat very bad.

19th, 10 A. M—Pulse, 108; temperature, 100·4°; rash fading.

20th, 10.30 A. M.—Pulse, 92; temperature, 100°; rash fading rapidly. Tendency to retention of urine; bowels have not acted since day before yesterday. ℞ Calomel, gr. ij; p. rhei., gr. v. Other medicine as before.

21st.—Pulse, 84; temperature, 99·4°; bowels acted freely; rash gone.

23d.—Pulse, 108; temperature, 100°; tonsils almost well; glandular swelling nearly gone; sitting up; appetite returning. ℞ Sulphite every second hour for two or three days. Chlorate and cinchona mixture every half-hour. Convalescent.

Remarks.—This epidemic would be termed a mild one from the fact that no deaths occurred. And yet Cases I and III might be characterized as severe, Case XI quite severe, and Cases VIII and IX as very bad ones.

There were a number of other cases in the neighborhood, mostly milder, which I treated with the sulphite alone, and in which the patients got well in three or four days, but of which I did not keep accurate notes.

The sulphite seems to have aborted some of the cases, notably Nos. II, IV, and V. In the Chicago Medical Journal for December, 1872, I published notes of two cases which were aborted.

The sulphite seems to shorten the duration of all cases, and to relieve them of dangerous sequelæ.

In none of these cases was there nephritis, nor subsequent œdema of the feet or legs, that would indicate any affection of the kidneys.

The sulphites seem to operate in such a manner as to save the life of the cuticle. There was very little desquamation, and that almost entirely confined to the thick skin on the ends of the fingers and toes.

I was called to see a little girl at the end of the second week, on account of quinsy and adenitis of the glands at the angle of the jaws, whose body looked as rough as a corn-cob—a great contrast to the cases related above.

The sulphite acts as an irritant to the bowels in some cases (VIII, IX), producing diarrhœa. In such cases its effect on the fever is not so manifest, and yet I believe it has a beneficial action.*

Rapid and safe convalescence seems to follow the use of the sulphite in every case.

I give these cases for what they are worth. They are not all uncomplicated cases, nor was the sulphite of sodium alone used in all the cases, so that the reader will have to weigh the evidence for and against it, and decide for himself its value and place in the treatment of scarlatina and other zymotic affections.

A CASE OF TRAUMATIC EPILEPSY.

OPERATION: RECOVERY.

By J. C. REEVE, M. D.,

DAYTON, OHIO.

The principles illustrated by the following case are so well known that it was deemed scarcely worthy of publication, but a perusal of the case of traumatic hemiplegia, reported by Dr. Poore in this Journal for February 1st, has impelled me to present it, as many points in the two cases are very similar.

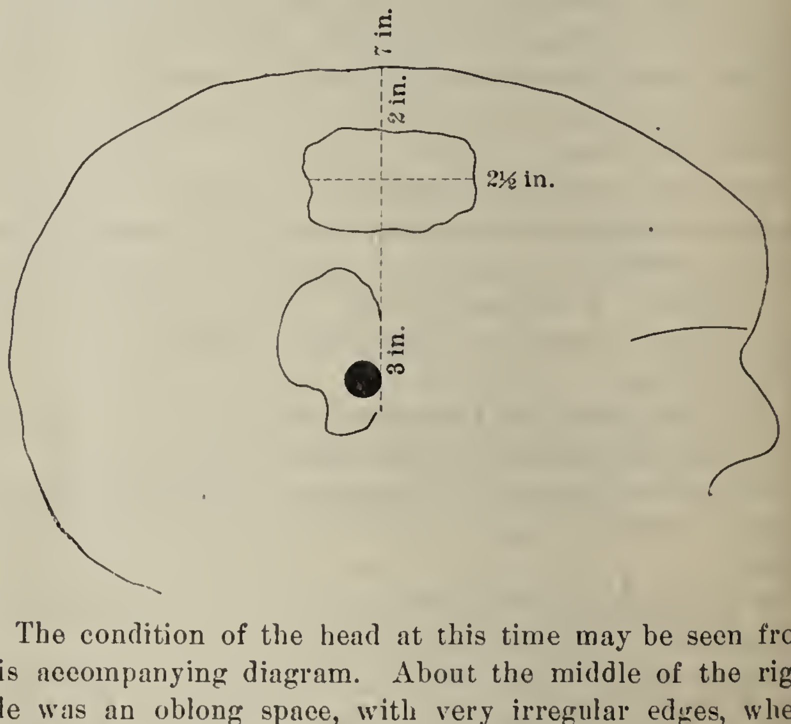
On the 12th of October, 1879, Willie H., aged nine years, was trampled upon by a horse, and I found him suffering from the following injuries: A scalp wound on the left side, which began about the median line of the forehead at the hair line, extended downward and along over the left ear and curved up on the occiput; the cranium was laid bare for several inches by the rolling up of this flap; a vertical incised wound in the center of the forehead, about three quarters of an inch long and down to the bone; a compound comminuted fracture of the right parietal bone, with brain substance exuding. Besides these wounds he had a fracture of both bones of the left forearm about the middle, the forefinger of the left hand was crushed off, and the middle finger stripped on its palmar surface to the tendon and one bone broken; and there was a fracture of the left thigh, with lacerated wound two inches long, out of which was taken a piece of bone as large as the last joint of my little finger.

In dressing the fracture of the skull, six or eight pieces of bone were removed; one piece as large as a quarter of a dollar was felt deep in the brain, and extracted by forceps. The amount of brain substance lost was estimated at between two and three teaspoonfuls.

On the 12th of January following the thigh was amputated, on account of burrowing suppuration of soft parts and necrosis of bone.

A *hernia cerebri* occurred at the seat of fracture of the skull, and was treated by pressure to recovery.

The patient remained in good health until about two years after the accident, when he was taken, in school, with a seizure undoubtedly epileptic in character. A year elapsed before he had another, and then similar attacks recurred from time to time, with lessening intervals. Although no testimony as to an aura could be obtained, nor any information as to one limb or one side of the body being more convulsed than the other, and although no symptoms at the seat of the injury announced their coming, it was but reasonable to attribute them to an irritation of the brain at the seat of the wound, and an operation was repeatedly advised. This was not assented to, however, until the fall of 1888, when the patient was eighteen years of age. He had had, in August of that year, four convulsive attacks, in September five, in October three, and three in the first ten days of November.



The condition of the head at this time may be seen from this accompanying diagram. About the middle of the right side was an oblong space, with very irregular edges, where bone was entirely absent. A line drawn from the auditory meatus directly upward crossed this space a little behind its middle, and to the median line of the head above measured seven inches. It was three inches from the meatus to the edge of the opening, two inches across the space, and two inches above to the middle line. Antero-posteriorly the space measured two inches and a half, and the surface was so much depressed below the level that the thumb would lie well in it. The surface was entirely of scar-tissue, and seemed intimately united to the parts beneath.

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* The sulphite appears to prevent the troublesome adenitis which complicates many cases.

Operation, November 20th, under A. C. E. mixture, with preceding injection of morphine and atropine. A semicircular incision was made below and around the space, and a flap dissected up; separation of the soft parts from the bone was, of course, easy, but where the bone was lacking it was very difficult; no normal tissue could be recognized. The flap being raised, a careful search was made for any pieces of bone which might have been left and caused the trouble. None were found. The edge of the cranium anteriorly seemed enlarged inward, and it was taken off pretty freely with the gouge-forceps. I was advised by two gentlemen who were assisting me, for whose opinion I have great respect, to dissect out the anomalous tissue and clear the brain. This was not done; I believed that relief would follow separating the scar-tissue, and hæmorrhage was free upon interfering with this part. As it was, a great deal of difficulty was experienced in checking it; one vessel continued to bleed in spite of attempts to twist or tie it, and brain tissue was recognized in the forceps after trying to catch it. The application of a red-hot wire, which had already been used to stop the bleeding of a vessel in the bone, was then made several times, but without result. Finally, I did what I then did not know had been resorted to by any one; a small pledget of cotton was squeezed out of the aseptic solution, placed on the bleeding point, and the flap laid down over it and secured with two stitches near its base, a roller bandage being turned over all for moderate pressure. This proved effectual, and the next morning the apex of the flap was gently raised, a forceps insinuated, and the pledget removed.

Convalescence presented nothing very noteworthy; the center of the flap, where very thin, sloughed, and made a "buttonhole." For a few days the patient had paresis of the right hand and forearm.

He remained entirely well until the second day of May, 1889, when he had a smart febrile attack and three convulsions in one day. I was convinced that this was of malarial origin, and gave quinine, which promptly cured him. He has had no illness and no convulsive attack since that date.

It may be objected that a cure can not be alleged in this case until a time has elapsed equal to that from the injury to the first appearance of convulsions. The objection is reasonable, nevertheless the substantial benefits of the operation are apparent.

Correspondence.

LETTER FROM PARIS.

The Influenza.—Professor Damaschino's Successor.—The Contagiousness and Prophylaxis of Tuberculosis.—Medical Legislation.

Paris, *March 10, 1890.*

The Paris medical body has been seriously afflicted by the influenza. One of the youngest of the professors, Dr. Damaschino, has succumbed to it. His constitution had been much broken, his resistance weakened by an old organic heart affection induced by the exigencies of a large medical practice and hospital work as well as the duties incumbent upon him as professor, so that with *la grippe* came collapse and cyanosis, and in less than three days all was finished. Profound emotion was felt at this catastrophe. The mortality from *la grippe* increased to formidable proportions toward the end of December and the beginning of January. No one chronically affected with heart troubles, diabetes, or Bright's disease could at all hope to recover from *la grippe* if seriously attacked by it. No epidemic since 1865 has been so disastrous to Paris. At the Academy of Medicine all conversation turned upon the topic of the day. "And D——?" "He has croupous pneumonia of the entire right side. The Lord only knows how it will turn out." "And F——?" "His temperature did not increase yesterday, but he is so weak, so prostrated, that his heart is being most anxiously watched." In reality the fear felt was more disastrous than the disease. Thoracic complications have been very serious, but they have rarely been fatal except with those whose health was already impaired organically. For all that, the year 1889–'90 will be long remembered. The popular vocabulary has lately been enriched by a word that before was only to be met with in technical books. Every one is well acquainted with the common *grippe;* one takes a cold, has a little fever, is slightly prostrated, has the nose stopped up, has, in reality, what might be called coryza, or in popular English a bad cold. But coryza does not entail death, and *la grippe* of this year has been fatal very often and most widely spread, appearing in the north as in the south, in Paris as in Lyons, in Marseilles as in Bordeaux and in Toulouse.

During the early days of January your correspondent had occasion to visit a city of about sixteen thousand inhabitants situated in the west of France. Everything was as gloomy and sad as it is apt to be in a provincial city in winter. The bells never ceased tolling; Saint Leonard replied to Saint Pierre; Notre-Dame played the accompaniment. The high notes fled by the river while the low ones found unexpected echo in the narrow streets. All the environment was filled by this infernal music. One would have really believed that the bell-ringers were exerting themselves to force the bells to sound upon various keys the name of the reigning epidemic—

In-flu-
En-za.

All this was far from being gay, but, thank the Lord, it is over.

Professor Damaschino is replaced by Debove. The contest between the latter and Dugué was extremely active, although to whom the victory would be awarded was far from being uncertain. Dugué is more than fifty years old; he is very much appreciated as a consultant and is an incomparable clinician. At his visit to his wards in the Lariboisière Hospital, although the latter is situated at quite a distance from the center of the city, he is usually accompanied by a much greater number of students than the other physicians. The old traditions of the French School, those of Rostran, of Louis, of Chomel, of Grisolle, are to be found there in their pristine purity and are followed with much care and conscientiousness. What if little value is attached to pure theorizing or brilliant ideation, if the patient is never left before he is thoroughly examined and a diagnosis drawn from every element that could contribute to its exactness, or a treatment instituted without all its indications having been previously and fundamentally discussed? The students are not deceived in believing this to be a sound and rational clinical method. On the other hand, whether rightfully or wrongfully, Dugué has been accused of having systematically held himself aloof from contemporaneous scientific progress; also of not having contributed to the literature of the day. These reproaches acquired the greater weight as the fortunate candidate, Debove, is particularly brilliant in these very directions. His wards at the Hôpital des Tournelles, only recently opened, have been little frequented by the students, who, on the contrary, have flocked in great numbers to his lectures delivered in the faculty amphitheatre. A disciple of Charcot's, he has taught the pathology of the nervous system with the distinctness of perception, the erudition, the doctrinal conviction only to be found in those who are truly masters. His serious speech, at times full of imagery, is well adapted to teaching. He is interested, moreover, in all questions of the day and was one of the first to introduce into France a knowledge of the labors of Koch regarding the bacillus of tuberculosis. Gavage, as a therapeutical measure, is also due to him. Debove is young, a savant, a man of progressive ideas, and is destined to offer to the Faculty of Paris the spectacle of a long and brilliant career.

The discussion about the contagiousness and prophylaxis of tuberculosis is terminated. It had lasted too long, and finally the different cliques commenced to exchange remarks that exhibited a certain degree of animosity. The discussion turned upon a proposition made by Verneuil to the Academy of Medicine that it should adopt the conclusions reached by the Medical Congress for the Study of Tuberculosis as to the methods to be employed for the popular propagation of such knowledge as would best enable the people to guard against contagion. The learned surgeon was most persistent in his efforts to gain not only the approbation of the Academy, but also administrative sanction. It was not a discussion of doctrines; all questions relative to the contagiousness of the disease and to its nature had been definitely settled. The important point now to be elucidated was whether it would be practicable to educate the public as to the resulting conclusions. This was, indeed, a most delicate question, considering the mobility and the impressibility of the masses, their quick transitions from a state of imperturbable serenity to that of a fear whose effects would be inevitably dangerous. To connect too often the two words contagion and phthisis, to enforce a comprehension of the fact that the second was the consequence of the first, would necessarily be to expose the unfortunate consumptive to disastrous ill-treatment, to separate the sick from their relatives by a suspecting fear, to quarantine all coughing children in the schools. Far better to confide to the tact and good judgment of the individual doctor, trusting to him to give such good counsel as may best protect the family, without uselessly terrifying it. A medical congress is by its very nature ill adapted to furnish a programme whose fulfillment would entail consequences lasting for an indefinite length of time. The members meet, organize hastily, and exchange ideas that may or may not be matured. After five or six meetings, when the faces become somewhat familiar, the congress is adjourned and all is finished. The preparatory work, the details of the reports of the facts discussed, are all ignored in such assemblies.

The text of Verneuil's report contained some curious items, such, for instance, as that, in order to avoid the dissemination of the bacillus by means of the dust of the dried sputa, consumptives should be forbidden to spit upon curtains, upon the floors, into their handkerchiefs, or upon the ground. Strictly speaking, the first injunction had some chance of being carried out, for, as a rule, consumptives have no greater tendency to spit upon curtains than the healthy; but as to the other interdictions, the only possibility of rendering them effective would be to extend to man the custom, at present restricted quasi-exclusively to dogs, of being muzzled. The Academy refused to sanction such suggestions, and, after much brilliant fencing, the discussion terminated by voting such measures as would not materially modify the existing state of things or cause a very deep emotion to be felt by the populace.

The Chamber of Deputies continues to be occupied with questions concerning the practice of medicine. We have the little-to-be-envied honor of having the oldest existing legislation upon the subject, dating from Ventôse, the eleventh year succeeding the Revolution. At that time the tendency was toward organization and unification. The old legislation about the practice of medicine was so complicated that the wisest failed to discover what was lawful on any particular point. The Revolution made a *tabula rasa* of all previously existing privileged corporations, trade-unions, and traditional laws of apprenticeship and of universities; but, three years later, it was found necessary to replace that which had been destroyed, so "Health Schools" (*écoles de santé*) were founded, in order that surgeons might be rapidly trained to meet the demands of the army. Soon it was discovered that the populace was being shamelessly swindled by all kinds of charlatans, and after many legislative discussions the laws of Ventôse were promulgated. According to them, two orders of physicians were created; doctors, who, after having been duly educated in a medical faculty, were authorized to practice medicine in the entire length and breadth of the Republic, and health officers, who were restricted to one department. No one was contented with these measures, and they have been modified ten times so as no longer to resemble their original framing.

Modifications were proposed in 1815, 1825, and 1847, and by the Duc de Richelieu, the Bishop of Hermopolis, Guizot, and Cousin, but for one reason or another have never been adopted. Two reforms were proposed to the last Legislature—one by the Government, the other by a parliamentary commission, formed in greater part of doctors; both succumbed to the same fate as their predecessors. To-day the same projects of reform, slightly modified, are again presented by a commission, at whose head is placed Dr. Chevandier, director of a balneo-therapeutical establishment in Paris. Among his supporters is M. Michon, whose legendary hunting jacket of the old Chamber of Deputies is to-day eclipsed by the blouse of the socialist, Thivrier, and a new deputy, M. David. The last is not one of the least interesting characters of the Parliament, and is an active, eloquent southerner, whose career will be of great credit to his political talents unless it is hampered by overreaching. M. David is a doctor, so far as the diploma is concerned, but is, in reality, a dentist, having one of the best-fitted-up offices in Paris. He is forty years old, with the appearance of a man of thirty, of medium height, with a well cared-for beard, a piercing eye, presenting altogether the most perfect type imaginable of a Florentine *diplomate* of the sixteenth century. From the first, M. David has shown himself to be the most zealous member of the Reform Commission, and every one supposed that, thanks to his activity, he would play a most important rôle in the elaboration of new projects. Unfortunately, he seems to have too lively a recollection of his early disappointments as a dentist, and seems only desirous of amelioration in that particular branch of the medical art, so that his imperfectly digested reform bill pleases no one, and particularly displeases his colleagues. It is to be hoped that with his fertile spirit he will renew the attack from another and superior point of view, and offer the curious spectacle of a dentist succeeding where a Frayssinous and a Cousin have failed.

Lectures on Hygiene and Public Health.—Dr. Alfred L. Carroll has been invited by the trustees of the Mott Memorial Library to give a free course of fifteen lectures on hygiene and public health to physicians and students at 4 o'clock, P. M., on Mondays, Wednesdays, and Fridays in April and May, at Mott Hall, No. 64 Madison Avenue.

The Woman's Medical College of Toronto, says the Canadian Practitioner, will soon have a new building completed.

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NATURAL IMMUNITY FROM DISEASE.

Many theories have at different times been advanced to explain immunity from disease, each having some foundation in fact as the outcome of observation and logical deduction. In the January number of the Archives de médecine et d'anatomie pathologique there is a study of the subject by S. Arloing. Immunity from any given infection, he remarks, has been ascribed to conditions of the secretions that are unfavorable to the normal life of micro-organisms, to the temperature of the body, or to the texture of the tissues of the organism in whole or in part that render it poor soil for the growth and propagation of germs. The author thinks there may be another and simpler explanation—the inaptitude of certain organisms to feel the effect of the amorphous products that microphytes give rise to. Germs of infectious disease may exist within the body and the disorder they give rise to be absent, for infectious disease does not exist merely because some noxious micro-organisms have taken up their abode within the animal tissues. They exist because functional or structural troubles are brought about through the agency of ptomaines. The proof that not the germs themselves but the poisonous substances evolved during their life cause disease would seem to be found in the fact that the poison alone has power to produce the disease when its special micro-organism is absent. When faith-cure fanatics say there is no disease they are perhaps right in a certain narrow sense never imagined by them, for chemical composition is not a disease in the accepted sense any more than is the theory of gravitation. As bodies fall when support is removed, so do men die or become ill when certain compounds are formed within them.

Theoretically, protoplasm, being everywhere identical, should always react to given agents in the same manner under the same circumstances. In point of fact this is not the case. Experiment proves that protoplasm reacts according to inherent individual peculiarity and according to the class or style of creature of which it forms the physical basis of life. For instance, the conjunctivæ of cows, goats, dogs, rabbits, and guinea-pigs were inoculated with the virus of pleuro-pneumonia. The parts affected in cows soon showed great tumefaction, and the animals died in fifteen or twenty days. Goats were affected only by slight local and transient swelling. To induce in them anything like the disturbance that the poison produced in cows it was necessary to use seven or eight times the amount of virus. Some other poisons that quickly kill sheep have only a stimulating power on dogs, while the guinea-pig can stand without effect about six times the quantity that makes sheep ill. An amount of virus of the *Bacillus anthracis* that ended the life of a sturdy sheep in twenty-four hours was injected—in proportionate quantity, that is—into a rabbit without other result than mere passing tumidity. The experiment was repeated several times with the same results. Only when a dose was introduced eight times as large as that given the sheep did similar conditions prevail. It was found most difficult to inoculate dogs with anthrax; yet, when it was once accomplished, the destruction of the animal was rapid. Thus it will be perceived that the anatomical elements of dogs are very susceptible to the poison of anthrax. If the canine organism habitually resists its influence, it is because the *Bacillus anthracis* fails to find the situation favorable to its growth and multiplication, or because it is imprisoned and possibly destroyed by the defensive cells of the organism.

To sum up: The presence of microbes can not produce disease unless some functional or structural change is brought about through their agency. Infectious germs that affect one class of animals powerfully produce but little disturbance in another class under similar conditions. Certain animals that have a natural inaptitude for specified disease may readily succumb if ever attacked, on account of the great susceptibility of their anatomical elements to this particular form of poison.

CHLOROSIS AND THE TON OF IRON.

All the symptoms of chlorosis depend upon disordered blood-formation. It is an essential anæmia, in which the chief clinical and chief pathological feature is a great diminution in hæmoglobin in comparison with the slight lessening in the number of red blood-corpuscles. Pallor, giddiness, weakness, dyspnœa, palpitation, etc., depend upon this disordered blood-formation, which is also the cause of the blood changes themselves. The gastro-intestinal disturbances generally associated with chlorosis have been shown to be due to the excess of decomposition products in the intestine, accompanying the characteristic constipation. These break up the iron compounds of the food, and tend to prevent the due absorption of iron in its only assimilable form, and so lead to impaired blood production. (See this Journal for January 26, 1889, p. 100.) On the principle that, if iron in normal quantity is absent from the blood, any amount administered by the mouth will surely cure chlorosis, the ton of iron has long been the classic prescription. Did it fail to cure? Then something was the matter with the preparation or the dose. The Medical News for January 25, 1890, while sufficiently conservative, calls attention to the fact that the treatment of chlorosis has been too direct, that exact methods of diagnosis have excluded certain factors—among them the individual—which the rational physician is bound always to consider. Iron does not invariably cure chlorosis. A large proportion of the patients are not particularly benefited by it. The English physician who said aloes would always cure chlorosis came far nearer the truth than the advocates of the ton of iron. Removing the characteristic constipation eliminates one cause of the deficiency of iron in the system—the decomposition products that break up the iron compounds of the food.

A number of well-marked cases of chlorosis have been successfully treated by enemata of defibrinated blood. M. Antiq (Lyon médical, No. 44, 1889), the originator of this method, believes that it fulfills more than any other the three indications in the treatment of chlorosis—namely, restoration of iron, restoration of oxygen, and restoration of the salts of potassium and of the chlorides. Like the ordinary mode of administering iron, the Medical News thinks this method of treatment is also too direct. Not what is absorbed, but what is assimilated, constitutes nutrition or cure. The exciting cause of chlorosis varies somewhat according to the individual, though the predisposing cause is generally acknowledged to be some error in the nervous system. Each case must be treated on its own merits; or, rather, on its own demerits. While one train of circumstances may bring about an essential anæmia when the natural conditions are favorable—as, for instance, the recent onset of menstruation that removes a certain proportion of the small supply of iron present in the body—a quite different order of events may produce it at another time. The grief of misplaced or disappointed affection is a potent factor in its production among women. Emotion has a powerful effect upon the circulation and upon blood-formation. Perpetual thought on one subject—and some faithful, sensitive women are famous for that sort of thing—wears out nerve-cells too rapidly, lowers tone, and impairs general nutrition. The mad Ophelia is but a poor physician when she dispenses rue for remembrance with the pathetic admonition, " I pray you, love, remember! " Forgetfulness also has its blessings. How, then, is this enviable state to be acquired? By the administration of iron? Hardly. The problem is more intricate. New occupations, new interests, new thoughts, new scenes, cheerful companionship, something to increase respiration and to regulate the heart—such as systematized mechanical movements, electricity perhaps, sea-bathing, the Turkish bath, nerve tonics, and digestive aids—these are of the utmost importance and will do far more than the ton of iron, however skillfully administered.

MINOR PARAGRAPHS.

THE ADVERSE POSSIBILITIES OF SUSPENSION.

The Union médicale has a paper by Paul Cheron on the treatment of chronic spinal-cord disease that contains sufficient mention of what suspension may do to give pause to the wildest enthusiast. From the very first, accidents have happened even in the well-regulated Salpêtrière under Charcot's supervision. In one case of tabes the paretic symptoms were greatly increased. Seventeen treatments produced œdema of the extremities in a man with atheromatous arteries, but without valvular disease. Fainting occurred in other cases; and paralyses in certain instances due to the compression and rupture of atheromatous arterioles. Erb has observed a sense of constriction about the chest, vertigo, and great weakness, followed by sudden death that the autopsy could not account for. Morton notices an increase in cutaneous anæsthesia and in cervical muscular spasm. Sudden death may follow some hours after the treatment. A person suffering from aortic insufficiency presented stupor and convulsive movements, and an increased difficulty in walking, after each suspension. Afterward vomiting and fever set in, and the man died in coma three days after his last hanging. Besides such ordinary, commonplace disturbances as are enumerated above, acute cerebral and spinal leptomeningitis may supervene. Contra-indications for suspension treatment are thus formulated by Blocq: (1) certain particular manifestations (modality) of the general state; (2) various cardio-pulmonary and nervous affections; (3) certain local lesions; and (4) general depression of vital power and anæmia when marked. Œdema and obesity require careful surveillance. Œdema renders suspension a painful process. Weir Mitchell's apparatus is thus of superior advantage. Suspension increases the number of respirations, but decreases their amplitude. Chronic affections of the respiratory tract—emphysema, phthisis—exclude suspension as a therapeutic agent. This is also true of organic heart troubles and of arterial changes where external pressure may produce rupture of the arteries or arterioles. Vertigo indicates that harm is being done. It may often be prevented by talking to the patient (Motchoutcowski). The teeth should be looked after, for they are sometimes too loose to permit of the application of the bandage under the chin. When there is a tendency to spontaneous fracture, some other agent must be tried and experiments with suspension be allowed to go by default.

A NEW OCCUPATION DISEASE.

In the Revue de chirurgie a new occupation disease is reported by Féré. The patient, a midwife, presented herself at the clinic, complaining of bilateral symmetrical loss of power and pain in both forearms. She thought herself the victim of paralysis acquired in the exercise of her profession. A week earlier, while attending an obstetric case, she had supported the perinæum, first with one hand, then with the other, for about two hours. This caused the wrists to swell, and by night they were very painful. Next day the pain persisted, and in the lower third of the forearm, on the outer side, there appeared quite a swelling. The skin became slightly reddened and the pain continued, increasing on movement. The position of the hands slightly resembled that seen in lead paralysis. The tumefaction measured about seven centimetres in length and between two and three centimetres in width. It began at the external portion of the dorsal aspect of the wrist, a little within the styloid process, and about a finger's breadth above the radio-carpal articulation. It ascended in a sort of spiral, reaching the antero-external surface of the arm at its middle portion. There was an obscure sense of fluctuation. There were no chills, or fever, or any sign of suppuration, and there was no family or individual history of rheumatism. The surgeon at the Bicêtre made the diagnosis of acute symmetrical inflammation of the synovial sheaths, due to a frequent and prolonged effort to facilitate flexing the fingers by lessening forced extension of the hand while supporting the perinæum. The wonder is that examples of similar occupation disease are not more common, for it is the custom of midwives—in France, at least—to support the perinæum according to classic methods for a length of time quite out of proportion to the necessities of the case. Excess of zeal is not without definite risks. In this patient's case, blisters, the actual cautery, and compression by flannel bandages for nearly three weeks dispelled the untoward symptoms.

THE INFLUENZA IN MADRID.

According to La médecine moderne, the epidemic has now disappeared from the Spanish capital, where it proved particularly fatal. The deaths during December, 1888, and January, 1889, were nine hundred and sixty. During December, 1889, and January, 1890, they numbered two thousand five hundred and fifty-nine. As a rule, the influenza in Madrid began lightly, with malaise, fever, cough, etc. These symptoms usually ceased by the third day, and the patient, confident of the so-called benign nature of his trouble, walked out in the cold and snow. A relapse was the result, a broncho-pneumonia, pulmonary congestion, or pneumonia with but slight local manifestations, and an ataxo-adynamic condition that ended life in a few days. A third of the population were attacked. Exact observations of the epidemic were impossible, as seventy-five out of every hundred physicians became its victims. Nervous and gastro-intestinal forms of the disease were rare, pulmonary troubles prevailing as a general thing. Quinine, antipyrine, the salicylates and tonics during convalescence constituted, as elsewhere, the routine medical treatment. The celebrated tenor, Gayarré, succumbed to the typho-pneumonic form of grippe, aged forty-three. The greatest mortality was in persons between the ages of thirty and fifty years. Children suffered but little, which was also true of people over sixty-three.

THE ADIRONDACK STATE PARK.

The passage of an act authorizing the expenditure of $25,000 during the coming year for the purposes of conservation and enlargement of the State's future park in the Adirondack wild woods may be taken hopefully as an entering wedge for a further liberal policy of extension. Managed properly, the State Park can be made to repay all just and necessary expenditures incurred in order to bring this grand sanitarium into practical popular enjoyment, and in order to hasten the time when that delightful region will be one of the health resorts for New York and the surrounding States. And the sooner the work of elevating a suitable segment of the Adirondacks into a State preserve, the greater will be the economy and the better will be the opportunities to shield it against the destructive tendencies that have had their sway from times immemorial. It is proposed to obtain a tract from fifty to seventy miles square in the wilder portion of the mountain and lake country which contributes to the formation of the headwaters of the Hudson River and other streams, and then make it so accessible to the people at large that it will become a sanitary boon and summer pleasure ground for a whole nation. It is the policy of the Legislature to do this tentatively and by degrees. Whether that is the best policy or not remains to be seen; we should be better pleased to see a large and liberal measure put into operation at once.

INFLUENZA IN AN ASYLUM.

At the Halifax Hospital for the Insane an incursion of influenza has afforded an opportunity to compare its symptomatology among the sane and among the insane, side by side, and under conditions favorable to medical control and observation. The report of this study, which is by Dr. George L. Sinclair, the assistant superintendent, is published in the Maritime Medical News. There were eighty-eight cases in all, with one death, apparently by pneumonia; there were no complications. There seemed to be a marked tendency to relapse, but the recurrences were none of them severe, since no one was allowed to go out of the house for a week at least. With regard to the cerebral effects upon the insane, Dr. Sinclair reports that many were much excited, and it was not an uncommon occurrence for the patient to assert that he had been beaten. The neuralgic pains were about alike in the sane and in the insane, where the latter were competent to give information as to their subjective symptoms. Rigors were quite common. The highest temperature was 104° F., but 102° was seldom exceeded and rarely maintained for any considerable period. The menses were anticipated and prolonged, both in the sane and in the insane. Convalescence was frequently very slow, and a distaste for food, continuing for a week or more, was noticed, along with a marked depression of spirits and inability for ordinary mental action; also, as a natural consequence, a considerable loss of weight.

SMALL-POX AMONG THE "PECULIAR PEOPLE."

The "Peculiar People" of England, like the misguided faith-healing zealots in our own country, contemn and refuse the use of medicines and decline to employ physicians. In two English parishes in the shire of Essex, called Cressing and White Notley, there has been an outbreak of small-pox, which, according to the British Medical Journal, was attended by circumstances tending to kindle a dangerous epidemic. A member of this sect of Peculiar People contracted the disease and neglected every recognized medical and sanitary precaution. Four friends of the patient, who were allowed to visit him, took the small-pox. The health officer then became aware of the impending epidemic and promptly took all possible steps to prevent the spread of the trouble, and, fortunately, with success. The great desirability of a small isolation-hospital was strikingly illustrated.

THE MEDICAL LIBRARIES OF MILWAUKEE.

The private collection of Dr. Senn is described as being "the best medical library west of Philadelphia." It contains twenty thousand carefully selected volumes, which are not locked up and hoarded, but, on the contrary, are generously placed at the service of the profession. The Clinical Club has a nucleus of a library in the collection of the late Dr. John K. Bartlett, with some additions. The Medical News correspondence, which gives us the foregoing, also states that Dr. Senn has accepted an invitation to address the Berlin Congress, in August next, on the subject of his original researches in intestinal surgery.

THE DAUGHTER OF THE HOSPITAL.

On March 11th, Laura York, the child of the New York Hospital, celebrated her first birthday. She was found deserted in the street, a year ago, when she was about four hours old and was confided to the care of the young surgeons at the New York. They did their part well, the foundling has thrived and become a great favorite, and on her birthday was the recipient of many presents.

A PROPOSED ENDOWMENT FOR YALE MEDICAL COLLEGE.

A proposition has emanated from the Fairfield County, Connecticut, Association of Yale Medical Alumni to raise an endowment fund for their college of $250,000, which they propose to start by pledging themselves for one tenth that sum. Dr. G. A. Shelton, of the class of 1869, is the member of the committee representing the county named.

ITEMS, ETC.

The Medical College of South Carolina.—The trustees and faculty will hold an election on or about April 15th for the purpose of filling the vacancy existing in the chair of pathology and practice of medicine. The three years' course of instruction as necessary for graduation has been adopted, to begin with the matriculates of 1890.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 25, 1890:

DISEASES.	Week ending Mar. 18.		Week ending Mar. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	2	10	4
Scarlet fever	90	18	70	10
Cerebro-spinal meningitis	4	4	2	0
Measles	145	11	215	12
Diphtheria	95	28	87	27
Varicella	9	0	12	0

The Hunter McGuire Prize.—Practice for March says: "Dr. Hunter McGuire offers a prize of $100 for the best original essay on the Diagnosis, Pathology, and Treatment of Chronic Cystitis in the Male. Competitors for the prize must reside in Virginia, West Virginia, or North Carolina. The essays must be printed or type-written. Each essay must be designated by a motto on the first page. A corresponding motto, together with the name of the writer, must be inclosed in a sealed envelope and attached to the essay. All of these essays must be sent to the secretary of the Medical Society of Virginia, Dr. Landon B. Edwards, Richmond, Va., by August 15th. The Medical Society of Virginia will be asked to determine by whom and in what manner the essays are to be examined. The name of the successful author alone will be made public."

The Obstetrical Society of London has moved its library to No. 20 Hanover Square, West.

The Woman's Medical College of Philadelphia.—Dr. H. Augustus Wilson has been elected lecturer on orthopædic surgery.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service from March 3 to March 24, 1890:*

Long, W. H., Surgeon. Leave of absence extended five days. March 11, 1890.

Devan, S. C., Passed Assistant Surgeon. To proceed to Erie, Pa., as inspector. March 12, 1890.

Heath, F. C., Assistant Surgeon. To proceed to Cleveland, Ohio, for temporary duty. March 18, 1890.

Stimpson, W. G., Assistant Surgeon. Commissioned assistant surgeon, March 11, 1890. Assigned to temporary duty at New York. March 13, 1890.

Society Meetings for the Coming Week:

Tuesday, *April 1st:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association (annual); Ogdensburgh, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (quarterly—Lockport), N. Y.; Essex (annual—Newark), Hudson (Jersey City), and Union (annual—Elizabeth), N. J., County Medical Societies; Chittenden, Vt., County Medical Society; Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *April 2d:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society.

Thursday, *April 3d:* New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Washington, Vt., County Medical Society.

Friday, *April 4th:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *April 5th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

MERCURIAL SALIVATION.

229 East Sixtieth Street, New York, *March 24, 1890.*

To the Editor of the New York Medical Journal:

Sir: In the issue of your Journal of March 22d Dr. C. E. Lockwood reports an interesting case of compound fracture of the skull complicated with a lesion of the right eye. In summing up the points of interest the doctor draws attention to the salivation produced by the use of a solution of corrosive sublimate (1 in 1,000) in cleansing the wound. The irrigation of the wound was made on April 2d. On that day the patient was given ten grains of calomel, and on the 4th he was again given a similar dose of calomel. The salivation appeared on the 5th. It seems strange to me that it did not occur to the reporter of the case that the salivation might have been caused by the ten grains of calomel administered the night before rather than by the sublimate irrigation of the small wound three days previously. It has occurred to the writer, as, no doubt, it has to many other physicians, that a single dose of four or five grains f calomel has occasionally been followed by profuse salivation lasting two or three days. The importance of the subject of intoxication by the use of corrosive-sublimate solution in washing out wounds and cavities will, I trust, warrant a short space in your Journal for the foregoing communication.

Hiram N. Vineberg, M. D.

THE PHYSIOLOGY OF THE TONSILS.

Army Medical Museum, Washington, D. C., *March 20, 1890.*

To the Editor of the New York Medical Journal:

Sir: It is probable that the article which Dr. Thayer is looking for may be the following: Spicer, S., The Tonsils (Faucial, Lingual, Pharyngeal, and Discrete); their Functions and Relations to Affections of the Throat and Nose, Lancet, 1888, ii, 805–807. He will find the reference to it, as well as to other articles on the same subject, under "Tonsils," in the index to the Index Medicus for 1889. Robert Fletcher, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 20, 1890.

The President, Dr. A. L. Loomis, in the Chair.

The Therapeutics of Heart Disease.—Dr. H. N. Heineman read a paper on this subject, in the course of which he went carefully over the whole ground of the pathological conditions presenting, and entered into the consideration of the causes giving rise to the various forms of heart disease. He divided the various forms of treatment indicated, with special reference to the lesion, into hygienic, dietetic, remedial, and mechanical. He enlarged upon the special efficacy of the mechanical treatment by exercise, as laid down and practiced by Oertel and others. It was of the greatest importance that in cases in which such treatment was recommended the patients should remain constantly under observation, for it was a matter of uncertainty, even though the heart appeared to be acting well, how long compensation could be maintained. When there existed circulatory disturbances following the practice of mechanical treatment its use was contra-indicated. He thought that if more careful examinations and analyses of suspicious cases were made and pains taken to make out the presence or absence of murmurs, heart disease would be more frequently recognized in its earlier stages, when advantage could be taken of the various therapeutical and other agents, such as he had indicated, as would undoubtedly render the cases of sudden death of far less frequent occurrence.

Dr. Delafield said it was very difficult to discuss the subject of chronic heart disease. The term was used in a great variety of different conditions, each one demanding a particular form of treatment which might be extremely harmful to others. There was perhaps no variety of treatment for cardiac lesions more worthy of consideration than that of the mechanical. When first presented to the notice of the profession in a somewhat crude way, they had been more or less shocked by the suggestion. As time had gone on and the method had been more and more largely employed and greater opportunities for observing the results had been given, there were now few among them who did not attach importance to the benefits which might accrue from its use. While there was of course a certain number of patients suffering from heart disease and who should be kept in bed or in the house, or at least protected against all forms of exercise or causes of excitement, there was undoubtedly a large class to be materially benefited by exercise in the open air. And here seemed to be the real practical outcome of the so called mechanical treatment. To insure the utmost benefit from this did not necessarily mean recourse to mountain climbing and gymnastic exercises, but exercise adapted to the general physical condition and to that of the heart's action in each particular case. By the heart's action he did not refer to the actual condition of the heart lesion. This carefully adjusted exercise seemed to be of service in several different ways. It improved the patient's general health, insured better nourishment to the tissues, improved the circulation, and diminished the disposition to venous congestion. The heart participating in this general improvement became more regular and better in its action. If the changes which had gone on in the valves were to be benefited at all, this outdoor life and regulated exercise would do it. Still, it was better not to expect more than could be actually achieved. While a great many of the cases might be undoubtedly improved, probably none of them were to be cured. Temporary benefit was all that could be expected, and the patients after a time would come back and a condition would ensue for which there was no relief.

Dr. W. H. Thomson said he had been led to regard it as of the first importance to ask what it was that the heart muscle most needed, and he had found that the answer to this question was that oxygen was its greatest necessity. He thought that patients suffering from cardiac diseases should stay out of doors as much as possible, and that provision should be made to give them more than an ordinary amount of air in their sleeping rooms.

The President thought that in treatment of heart disease it was of the utmost importance to insure to the patient as far as possible good arterial blood, to further the elimination of all of the products of retrograde metamorphosis and to keep the trophic nerve apparatus of the heart in normal condition. It was a pleasant thing to hear the points in a discussion on heart treatment directed to a consideration of special nutrition to the organ. He thought it was well for once to leave the discussion of valvular disease on one side and to consider the preservation of the heart muscle in its normal integrity. The question of exercise or rest as applicable to given cases was one not to be flippantly considered, and it was often a very difficult matter to determine what was the proper advice to give a patient in this respect. Of course plenty of oxygen and good hygienic surroundings, regular diet, and so forth, were unquestionably indicated, especially when there was any loss of compensation. It was his custom, before recommending exercise, to test patients. It was not safe to tell patients to go into the country and take exercise, and he was quite sure he was responsible for disastrous results by having made this mistake; and now he always made a point of noting the effects on patients of exercise taken in his own office. If this produced the trace of a waver in the heart sounds or radial pulse, it was better to be very careful how one gave such a patient *carte blanche* in the matter of exercise. It was a dangerous thing to prescribe exercise for patients fifty or sixty years of age, whether there existed any valvular lesion or not. The question of trophic nerve action of the heart was an important matter and one about which they were just beginning to have some little knowledge. The physiological effect which certain nerves appeared to have upon the heart was a very interesting subject. Medicines could only be used as agents temporarily to lift patients over a dangerous point, in the hope that after being so aided they would get along satisfactorily.

The Functions of the Cerebellum as indicated by Recent Research.—Dr. E. D. Fisher, in the course of an interesting review of this subject, said that our knowledge of the cerebellum was far from satisfactory. Many of the results of experimentation did not correspond with the clinical and pathological results as observed in man. There was, notwithstanding, great value in experimental work, especially when carried on in the higher animals. The general functions of the cerebellum in animals and in man were the same, although they might be somewhat modified by the special characteristics of the mammals under consideration. The experiments which the speaker recorded had been carried on in the Loomis Laboratory with every precaution against sepsis, following the same methods observed in cerebral surgery in man. The operations were eight in number—seven on dogs and one on a monkey, the latter animal being exhibited. In summarizing the results so far obtained, one fact had stood out very clearly—namely, that it required a considerable lesion of the cerebellum to produce any symptoms, and that cortex lesions could not be localized as in the cerebrum. Loss of equilibrium and inco-ordination were present in every case, more or less markedly, but no sensory disturbance. Recovery always occurred after a certain time, the cerebrum seeming to take on the function of the cerebellum, although this was never absolute, as even in the dog, which lived some six months after the operation, some inco-ordination and loss of equilibrium were present. The psychical functions, so far as could be studied, were not affected, and the sexual desires were neither lessened nor increased.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN THEORY AND PRACTICE OF MEDICINE.

Meeting of February 18, 1890.

Dr. Francis Delafield in the Chair.

The Mortality from Pulmonary Phthisis in New York and Brooklyn.—Dr. B. F. Westbrook read a paper with this title which was entirely statistical, dealing, however, less with the question of phthisis than with general mortality statistics and the conditions influencing the same. The inference which the author seemed to draw from his researches was that if the country ceased to be flooded from time to time by the influx of large bodies of immigrants, the death-rate would be materially lowered. This would be so because of the better character and greater intelligence of the American people as a class. They were more able to take care of themselves and had more generous and suitable diet.

Dr. A. L. Loomis said it was quite difficult to discuss such a statistical paper; so much depended upon the sources from which the figures had been derived and how completely all sources of error were eliminated. The author's statement that the highest rate of mortality from phthisis was among the second and third generations of the immigrants from Ireland was not surprising to any one familiar with their childhood and who knew of their diet and habits in early life, which were all such as to prove fruitful sources of high mortality not only from phthisis but from any prevailing malady. The speaker thought that if Dr. Westbrook had prosecuted his investigations among the descendants of other races, taking, for instance, the Scotch, he might have found that the second and third generations had a considerable tenacity of life. It was, however, always a risk for those who were not strong to come to another climate, and the change often made them more susceptible to disease. The question at issue seemed to hinge upon what the conditions were which predisposed to the development of pulmonary phthisis. It was safe to affirm that there was always a period of general decline antecedent to the bacillary tuberculization. If it was believed, as he supposed it must be, that pulmonary tuberculosis was due to the tubercle bacillus, and that wherever that bacillus might be found it depended for its sustenance and growth on the human body, it would also be conceded that the inhabitants of cities were more exposed to infection from such a source than people in the country; and if they happened to furnish more favorable soil for such germ development than those in the country did, there would be a correspondingly higher death-rate among the former. And this was just what held good in fact. If there was any soil more than another suited to the development of tubercle bacilli it was to be found among the tenement-house children and those of this class who were just reaching adult life. If the theory as to the germ invasion was accepted, then the chance of immunity increased with the health power of the individual to resist such inroads and to furnish in his own system the necessary germicidal power.

The Treatment of Typhoid Fever.—A paper with this title was read by Dr. Simon Baruch. He said that the frequent revival of this subject in our medical societies was *prima facie* evidence not only of its great importance, but also of the instability of our present therapeutical methods in the treatment of typhoid fever. He now wanted to show how the judicious use of cold water, in the hands of Vogl, Jürgensen, Brand, himself, and others, had lowered the mortality percentage. The cold pack, if properly administered, was a mild antipyretic and soothing, sedative procedure, while the affusion, next to the douches, was the most actively stimulating. The first principles and aim of scientific hydrotherapy were to refresh and to stimulate the nerve centērs, so as to induce a sedative effect. The opinion expressed in the recent discussion at the Academy of Medicine on this subject—that "it was the greatest possible mistake to bring these data from Germany and apply them to the United States—was singular, since we did not make such distinction with regard to other therapeutic agents. The statistics furnished by Jürgensen and Vogl, for instance, were really the best possible guide for this or any other country, because they were obtained from hospital, civil, and military practice, and they represented the comparative merits of various methods. Vogl was the chief of the garrison hospitals at Munich. He had offered us the records of 8,325 cases of typhoid fever treated there during forty-seven years. The mortality had ranged from 40·3 per cent. in 1843 to 2·3 per cent. in 1877-'78. Since 1875, when the cold-bath treatment was systematically begun, the mortality percentage had never exceeded 4·7 per cent., and the average was 2·7 per cent. The report was very exhaustive, the nature of each complication was fully emphasized, and a minute, practical, and judicious analysis of the bearing of the treatment upon every essential symptom was given. It might be said, without fear of contradiction, that no therapeutic question had been so thoroughly canvassed as had been done in this report. Could any one familiar with its source deny credence to its statements or gainsay its deductions? It afforded testimony that was unimpeachable to the effect upon a certain type of patients—soldiers of about the same average age and condition of health—under the depleting, nihilistic, expectant, and water treatment, and also striking evidences of the differences between a combined water and medicinal, antipyretic method and the systematic Brand, antifebrile method. The numbers were sufficiently large to entitle them to respect, and the period of such length to exclude all possible errors due to more or less virulence in the type of the disease. It demonstrated the interesting point that the combined method at times reached quite as high a mortality percentage as in many of the years preceding, when the expectant treatment was employed, but that the systematic, unremitting bath treatment—Brand's method—never exceeded, in severe years, 4·7 per cent., and averaged 2·7 per cent. Neither of these figures had ever been reached before. The speaker thought it was not at all necessary to have made a diagnosis in a given case of typhoid fever before the bath treatment could be begun, and that every suspicious case should be placed in the bath if the temperature reached 103° F. That no harm could result from it might be easily demonstrated. A mild bath treatment was advantageous in any febrile attack in which the temperature reached 103°; if it proved to be typhoid, valuable time had been gained; if its course was rapidly terminated, nothing was lost, except the satisfaction of plying the patient with aconite or antipyretics. In a recent discussion much had been said by some of the speakers on the subject of intestinal antisepsis in typhoid fever. Considering that putrefaction was due to the presence of decomposing tissue elements and secretions from intestinal ulcerations, it seemed that the wisest plan, in our effort to limit them, would be to prevent their cause. That this might be done could no longer be doubted if we might credit Vogl's testimony as to the great diminution of diarrhœa and meteorism by the bath treatment. The cold bath—which reduced the temperature, strengthened the heart, deepened the respiration, improved the digestion, increased diuresis and perspiration, and brightened and refreshed the patient—must prevent the tendency to accumulation of effete material in the system. Another point which had been brought out by one of the speakers was the value of solid food in the third week of the fever. It was not simple coincidence that the advocate of this method of feeding was also the only advocate of systematic bathing who appeared in the discussion. The most important question was, What constituted the cold-bath treatment? The statistics referred to, showing a mortality of less than three per cent., and in 1,200 cases treated before the fifth day of less than one per cent., were not obtained from cold sponging, wet pack, cold coils, cold affusions, graduated baths, or any other agreeable substitute; they were the result of methodical bathing, according to Brand's original method. As there seemed to be much vagueness of conception on this point, the speaker deemed it important to furnish an outline of the method. The first principle was to bathe early, even before diagnosis was clear; no harm was done at least by a graduated bath, say, reduced from 90° to 68°, and a duration of from fifteen minutes to half an hour. This was the only modification of the method advisable.

It accustomed the patient to the treatment and gained time. It should be resorted to as soon as the temperature in the rectum reached 103°. The speaker was in the habit of bathing the patient's face and chest with ice-water before placing him in any bath. Again, as soon as the case became defined or even suspicions, the strict bath, 65° F., should be used. The tub must stand at the patient's bedside filled two thirds with water at 65° F. The patient, after receiving a stimulant and having had his face and chest washed with ice-water, was then to be undressed and gently lifted into the water. A gasp and shudder followed—perhaps an exclamation of distress. But gentle reassurance by word and deed, a calm demeanor devoid of haste and flurry, and avoidance of force, would do much to quiet the patient. With one hand under his head if necessary, the other hand, or another nurse, must gently practice friction over the submerged parts. This important feature of the Brand method was frequently neglected, and to its neglect might be charged the occurrence of collapse, cyanosis, and chill. The gentle friction with the outstretched hand produced a rosy hue of the skin; the superficial vessels were dilated. By their exposing a large supply of blood, the cooling was more rapid. The bath should be continued in this manner fifteen minutes, no matter how urgently the patient desired to be removed. A pinched countenance, chattering of teeth, unless excessive, or a small pulse, must not be taken as indicative for removal. If the face became cyanotic or the respirations embarrassed, the bath must cease. Every five minutes during the bath water at about 65° F. should be gently poured from a pitcher over the head of the patient, after a folded handkerchief had been placed around like a bandage with the knot over the nucha. This was to prevent the water from running over the face, and insured it spreading over the head. Before the patient was removed from the bath a linen sheet should be spread on a blanket to receive him. If his temperature had been high, this sheet alone was wrapped around him, while his lower extremities were also covered with the blanket. If the temperature had not been over 103° the whole body might be wrapped in the blanket over the sheet and hot bottles placed to the feet. He was then left to dry for ten to fifteen minutes; something hot was now given him; his nightgown was replaced and his temperature taken. This process was repeated every three hours so long as the temperature reached 103°, night and day, unless the patient was in a natural sleep. Stupor, coma, or delirium were always indications for the bath, even if the temperature was below 103°. In these cases, placing the body semi-recumbent into a half-bath at 95° and passing several basinfuls of water at 60° to 65° over the head and shoulders was a more valuable procedure than the complete bath.

It should be clearly understood that the Brand bath was not a "nervous sedative," but a refreshing measure by which the depressing effect of the typhoid poison was to be counteracted. The system was tottering under the enfeeblement of all of its functions by the effect of the infection upon the nervous system. The impact of cold water upon the periphery deepened the respiration; more oxygen was inhaled; more CO_2 given off; the refreshing impulse was conveyed to the nerve centers, from which the heart and stomach received tone and the secretions activity. It fulfilled the indication referred to in a recent valuable paper by Dr. Loomis, who had said: "In the light of recent experiments, we were forced to the position that, in the treatment of all acute infectious diseases, our successes would be in the judicious measures which Dr. Chambers had long ago designated as 'restorative.'" The rationale of the restorative action of the bath was so simple that, if once appreciated, no attempt would be essayed to substitute it. The gentle friction stimulated the superficial vessels, whose muscular coats were paralyzed by the infective process, and which gave rise subsequently to heart failure from absence of propulsive power. These vessels were then dilated, as was evident from the ruddy hue of the skin; the obstacle to heat dissipation was removed also. The occasional cold douche over the head and shoulders contracted the vessels briefly. The most superficial observer would not fail to note the increase in the force and decrease in the frequency of the pulse. The bath was not intended as a specific curative measure, but its action was analogous to that of peripheral stimuli applied to other toxic conditions. The treatment in these cases by the many well-known methods was continued until the respirations and pulse indicated that the poison was no longer circulating in the blood. Almost the same object was in view in the treatment of typhoid fever by the cold bath. The elevated temperature, 103°, was regarded as the guiding manifestation in this case, as the retarded respiration was in the other. What would be thought of the application of a mustard plaster, or the smelling of hartshorn, for the production of a peripheral stimulus to arouse a case of opium narcosis which barely responded to flagellation or a strong faradaic current? Sponging the body in typhoid fever bore the same relation to the cold bath, the only difference being that in the one case the feebleness of the stimulus was at once apparent, while in the other days and weeks might pass ere we discovered its inadequacy, and then it was too late, as experience had shown. The following case was given in illustration of the method used by the speaker at the Manhattan General Hospital: An ambulance call brought in a case of Paris-green poisoning. The stomach, on being washed out, was found to contain no poison. The patient's temperature was 106°, pulse 140; tongue, brown and dry. He was apathetic and could give no account of himself. He had no cough; the respiration was not out of proportion to the pulse. Pressure in the right iliac region made him shrink. A graduated bath of 90° to 68° reduced the temperature to 101° in three hours; another, when it rose to 103°, reduced to 100°. On the second day consolidation was made out in the upper posterior half of the right lung. The patient was convalescent in five days. He had been bathed on suspicion, and with benefit.

Dr. Loomis thought that the author of the paper was undoubtedly an enthusiast and went as far as the law allowed him, and perhaps a little further, when he compared the toxæmic condition of a patient in typhoid fever to that of one under the narcotic influence of opium. If we believed anything in regard to infectious diseases, it was that they were due to a specific micro-organism, and this we certainly did not believe of opium poisoning. From the speaker's limited experience with the cold bath, he believed it to be a powerful agent in restoring vitality if properly used, and equally powerful in destroying the same if improperly exhibited. As to its antipyretic power, there could be no question that, when used to reduce temperature four or five degrees, without regard to its effects upon the general circulation, respiration, and general condition met with in typhoid fever, the cold bath was capable of doing great harm. Statistics were very strange things. He had treated recently twenty cases of this fever in which he had employed the cold coil. There had been no death, but that did not constitute a basis for argument that the cold coil was the best and only treatment. Still, the statistics which Dr. Baruch had adduced were very strong proof. They had convinced the speaker by the enticing way in which they were put, and, if opportunity served, he should certainly adopt the plan of treatment indicated, and perhaps at some future time he would be able to discuss the question with more knowledge as to facts.

The Chairman said that personally he had no experience with the treatment of typhoid fever by cold-water bathing.

Dr. Baruch seemed to have made it clear that in this country very little was really understood about this method in its integrity. One reason was perhaps the difficulty of getting nurses in sufficient number and properly educated to carry out such a course of treatment. Of course it could be done and ought to be done, but there had been hitherto practical difficulties in the way of trying it. Possibly one reason why such good results could be chronicled by this method was the limitation of the entire treatment to bathing, feeding, and stimulation, while no medicines were given at all, while in the so-called expectant plan it was a fact that a good deal of medicine was given.

Dr. Baruch, in the course of a brief reply, said that Dr. Loomis's argument as to the want of similarity in condition of the patient toxæmic from typhoid infection and opium could be met with the statement that they were both poisons, a medicine in one case, a ptomaine in the other. The patients required identical treatment, which was invigoration to the point of ability to resist the morbific influences. This, and not the reduction of temperature, should be made the object of treatment in typhoid fever.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN LARYNGOLOGY AND RHINOLOGY.

Meeting of February 25, 1890.

Dr. S. O. Vanderpoel in the Chair.

Hypertrophy of the Turbinated Bones.—Dr. Nichols demonstrated the case of a patient upon whom he had operated several times, at different intervals, for severe cough and asthmatic seizures. The operation had consisted in the removal of hypertrophied turbinated bones and a quantity of adenoid tissue. The patient's condition had been improved for a short time only, the paroxysms invariably returning. The last operation had been performed some three weeks previously. There was an interval of comparative comfort, but at present the condition could not be said to have been improved. Another patient exhibited by Dr. Nichols presented almost total destruction of the soft palate and uvula, with thickened epiglottis. There had been no pain at any time. There was no history of syphilis or tuberculosis. The patient had been under treatment for several years without benefit. Despite the history, the opinion of the gentlemen present was that the disease was probably syphilitic. The case had just come under the care of Dr. Nichols, and he said that he intended to put the patient upon vigorous antisyphilitic treatment.

Large Turbinated Growth complicated with Cleft Palate.—Dr. Phillips presented a patient with a large turbinated growth, complicated with cleft palate, upon which he proposed to operate by first removing the inferior turbinated bones and then doing staphylorrhaphy.

Cases of Hare-lip and Cleft Palate.—Dr. Goodwillie exhibited models of two cases of hare-lip which had occurred in a family of children in which there had been altogether four double hare-lips and one cleft palate. In one of the cases, that of the cleft palate, a great deal of bony hypertrophy and hypertrophied tissue was thrown out, entirely filling the cleft between the hard and soft palates. This it had been necessary to remove before staphylorrhaphy could be performed. It was well in these cases—in which the vomer was absent, its place being taken by hypertrophied tissue or bone—only to leave such amount as would correspond with the vomer, if that were in position. Carving too much material away would produce a nasal resonance to the voice.

The Causation of Diseased Conditions in the Larger Respiratory Passages.—A paper with this title was read by Dr. J. M. W. Kitchen. He first referred to hereditary and intra-uterine influences as productive causes of many of the diseases of the upper air-passages. He made a distinction between hereditary and intra-uterine causes. The former might be considered the result of structural and functional peculiarities in both parents, while the latter might be judged to be due to maternal influence alone. There was no fact better established than that structural and functional peculiarities were transmitted from parent to child. Again, the normal peculiarities of structure of the larger respiratory passages tended to produce disease. That the peculiar functions as well as the structure of these parts did conduce to the diseases so frequent in these organs was quite evident. The angle formed by the vault of the pharynx was well calculated to retain excessive secretion which then became a source of further trouble. These bunched folds of mucous membrane, the tonsils, were also, by their form, when inflamed, productive of considerable disturbance by pressure. The very complexity of the laryngeal apparatus tended to produce disease. But probably the most generally predisposing cause in these passages was malnutrition, by which was meant insufficient rather than defective nutrition in its broadest sense. The almost innumerable faulty hygienic, sanitary, dietetic, and social conditions and influences which tended to bring about such malnutritive stasis of the body generally also affected those parts under consideration, and rendered their component tissues delicate. Not so frequently did supernutrition or plethora act as a cause. Such a condition would be sure to bring about catarrhal troubles of the respiratory passages. Faulty excretion usually went hand in hand with plethoric conditions. Many sore throats and bronchial irritations were without doubt of rheumatic origin. Abnormity of structure was in many cases a very noticeable cause. One pathological condition induced other disordered states, as acute attacks produced chronic conditions. Reflexes of various irritations were no doubt causative agents. Mouth-breathing was frequently mentioned as a cause, but the speaker was inclined to look upon it as primarily the effect of disease rather than the cause. In the light of present knowledge there was no doubt that germs played an important part in the causation of this class of diseases. The treatment of these troubles referable to the larger respiratory passages was found to be most efficacious where the principal ætiological factors were taken into consideration and efforts made to obviate them first.

Dr. Jarvis and Dr. Rice then discussed the possible relation which heredity and other influences bore to subsequent development of diseases in the upper air-passages.

The Relation of Nasal Obstruction to Respiratory Neuroses.—Dr. Mackenzie, of Baltimore, made some remarks on this subject. He said that, though this subject might be considered worn threadbare with the quantity of literature and the frequent discussions on the question, we were really just beginning to discover something by which to arrive at a definite knowledge in regard to the ætiology of these troubles. There was no doubt of the relation between nasal diseases and asthma, but the asthma was a symptom and not a disease *per se.* These respiratory neuroses were caused by many things. Irritation of the vaso-motor nerves of the naso-bronchial tract was one of the factors. Vascular changes in the upper air-passages had their effect upon the nervous system, acting pretty much as did an attack of epilepsy. It was a well-known physiological law that there was intimate sympathy existing between every part of the respiratory tract, and that irritation of one part produced evidences of it in another. The example given was that of sympathetic coryza. Instability of the nervous apparatus might be inherited or acquired. It was to these facts that the frequent nervous explosions were due, and not to some special local lesion situated in the respiratory tract, as was believed by some to be the cause. Asthma might be brought about by some obstructive lesion in the nasal passages, or the asthma might be the cause of the obstruction, or, on the other hand, the growth might be purely accidental. The statement that asthma did not exist without some obstructive lesion in the nose was absurd in the extreme.

Dr. Bosworth could not understand why asthma was not called a disease, as no one knew what was meant by nerve explosions, reflexes, neurasthenia, epilepsy, and many other such vague terms. To him the condition which existed during an attack of asthma was perfectly clear. It was one of pure hyperæmia, brought about by vaso-motor paresis. The lesion in a paroxysm of asthma was a vaso-motor paresis of the blood-vessels supplying the bronchial mucous membrane. The blood supply in the nose was regulated by the same vaso-motor tract as that which regulated the supply of the bronchial tubes. It was very easy to be seen why a diseased condition in the nasal cavity caused attacks of asthma. There were factors to be considered in the causation of such tendencies. First, a nervous condition was necessary; secondly, some obscure atmospheric influences; and, thirdly, a predisposition. It was also necessary for some diseased condition of the nasal passages to exist prior to the development of such attacks of asthma. He also stated that in all cases of asthma which had come under his notice, obstructive lesions of the nose were found. While all of the cases were not cured, by operations or treatment directed to these parts, from sixty per cent. to seventy per cent. had been cured and the remainder made more comfortable.

Dr. Robinson agreed with Dr. Mackenzie in the statement that a supersensitive condition of the respiratory tract must exist in these cases, but it was also a fact that in many pronounced cases the pathological lesion could not be found. It was also true that in many instances there were lesions to be found in the nasal cavities. He could not agree with Dr. Bosworth when he said that obstructive lesion of the nose was necessarily present, and that asthma was a disease and not a symptom. He thought that such a statement was erroneous, and that the work was expended in the wrong direction which led to any such conclusion. There was no question but that asthma was a symptom of some disease, and the condition which produced it might reside anywhere in the body or on the skin. It was a fact that most people had a more or less obstructive lesion of the nose, which, unless they passed into the hands of a specialist, would probably have caused them no trouble whatever. It was too bad to believe that all of these people would have to go through some form of operation either to cure or prevent asthma. The speaker related his experience and that of some other rhinologists in operations upon the nose for the relief of asthmatic paroxysms, and said that in all cases the trouble was not benefited, and the paroxysms returned with greater severity than before.

Dr. Delavan thought that the subject was far from clear, and therefore he did not state any definite views. He said that an idea had been lately advanced as to the bulbar origin of these troubles which he thought was well worthy of consideration.

Dr. A. H. Smith said that there were two factors to be considered in the causation of asthma, and those were predisposing and exciting. The predisposing might be hereditary or acquired, and the exciting principally reflex in its action. And of the reflexes, which had such wide distribution, the most common one was that from errors in diet. The condition of spasm of the muscular fibers in the bronchial tubes was brought about by irritation and reflex action from the pneumogastric nerve and its bronchial branches. He thought it was irrational to suppose that a lesion must exist in the nasal passages when asthma was present. He had seen some of the most severe paroxysms produced by errors of diet.

Dr. Mackenzie closed the discussion by stating that his treatment in these cases had been uniformly successful, and that his efforts were directed to improving the patient's general health, and if any special lesion existed, this was corrected as far as possible.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN PATHOLOGY.

Meeting of January 10, 1890.

The President, Dr. E. H. Bennett, in the Chair.

Dr. McWeeney exhibited a number of pure cultures and microscopic preparations of certain pathogenic and non-pathogenic organisms from the laboratory of Professor Koch, of Berlin.

Mr. Story informed the Section that the General Council of the Academy had granted a sum of money for the purchase of microscopes, by means of which pathological preparations could be exhibited at meetings of the Section in a better way than had been possible heretofore.

Dr. Paterson was under the impression that the *Micrococcus tetragonus* was one of the anaerobic species which would not flourish in the presence of air, and that it was therefore not likely to develop within the walls of abscesses in the lung. He therefore thought that its culture should proceed accordingly, and was inclined to question the fact that Dr. McWeeney's preparation was a pure specimen of the variety in question. He was inclined to believe that the supposed *Micrococcus tetragonus* was one of the more common micrococci, arranged in tetrads, especially where the characteristic capsules were absent.

Dr. McWeeney, in reply, said he entirely agreed with Dr. Paterson's remarks as to the state of affairs in that city as regarded the want of means for pathological research there. It was indeed pitiable that Dublin should be the only important city in the three kingdoms where no bacillo-cultural school existed. As to Dr. Paterson's remarks about the *Micrococcus tetragonus*, he was obliged to quote against him the opinion of Dr. Koch's first assistant, Dr. Fränkel, who, in his book, Grundriss der Bakterienkunde, stated that the *Micrococcus tetragonus* was aerobic, and did not succeed except in the presence of abundance of oxygen.

Case of Injury to the Liver.—Dr. Bernard submitted specimens from a case of injury to the liver from a crushing blow inflicted by a laden cart. There were two contusions of the upper surface, and an extensive laceration of the Spigelian lobe. Before death the temperature had been high, and the urine contained sugar.

The President mentioned a somewhat similar case in his own experience where, as was usual in cases of intra-abdominal hæmorrhage, the individual lived for about five days and then sank—not from inflammation of the abdomen but from inflammation of the brain. He hoped to show a specimen from the case at the next meeting of the Section. The present was a most valuable contribution to their knowledge of the subject, particularly with reference to a matter which the speaker had overlooked—namely, the presence of saccharine urine as affording any evidence of rupture of the liver. He had dealt with a good many ruptured livers and he had never tested for sugar. He asked how long the patient had lived.

Dr. Bernard replied forty-two hours and a half.

Dr. Mason asked if the pain in Dr. Bernard's patient was in both shoulders or in one only, and also what the cause of the tympany of the abdomen was.

The President said he was inclined to think that in a great many cases of liver injury the laceration was caused by the liver being pressed against the spine. The laceration of the Spigelian lobe in the present case had been undoubtedly so caused.

Dr. Bernard, in reply, said that both his shoulders were affected with pain, but he did not complain of any in the abdomen. His viscera were all healthy, and his intestines uninjured and full of flatus. Cases like this were shown to the Pathological Society in 1875 by Mr. John Hamilton, who was of the same opinion as the president as regards the occurrence of pressure against the spine and the tendency of cleavage, and by Dr. Thornley Stoker in 1879.

The Pathology of Empyema.—Dr. H. T. Bewley read a paper on the pathology of empyema. He stated that this disease was due to the entrance of pus producing micro organisms into the pleural sac, that these organisms belonged to several varieties, and they reached the pleural sac by different routes. Basing his classification on pathological grounds, he distinguished five varieties of empyema: 1. When ordinary pyogenic micrococci made their way into the pleural sac through an opening in the chest-wall (perforating wound or septic puncture), or from the lung by the bursting of a pulmonary abscess or gangrene into the pleural cavity. 2. Some cases occurred in connection with croupous pneumonia, and were caused by pneumococci. 3. Some cases occurring in persons afflicted with phthisis were tubercular. 4. Under various circumstances pyogenic micrococci were able to enter and live for some time in the tissues of the human body without doing any harm. If, however, any part of the body was sufficiently injured by inflammation or in any other way, the micrococci became able to multiply in this weakened spot, and produced suppuration. In this way we must explain the conversion of serous into purulent effusions when no lesion of the chest-wall or of the pulmonary pleura existed. 5. Some cases were a part of a general pyæmia.

The President remarked that some months ago, on reading accounts of experiments by Koch in connection with the production of osteomyelitis by the feeding of animals on putrescent matter, it occurred to him that clinical observations, made in this city years before micrococci were thought of, had led to the same conclusion. Nearly twenty years ago his late colleague, Sir Edward Sinclair, had said to him: "If you want to produce puerperal fever in a recently-delivered patient, your surest way of doing so is to let her eat game." Game which had come to the city was generally pretty high.

Dr. McWeeney asked information from Dr. Bewley—namely, as to whether empyema might be produced by tubercular bacilli or the bacilli of acute pneumonia. Empyema was a collection of pus in the pleural cavity. Could tubercular bacilli or the bacilli of acute pneumonia produce pus in the ordinary sense of the word? If he was right in his idea that empyema was a collection of pus in the pleural cavity, it should, according to ordinary conceptions, have been produced by the *Staphylococcus pyogenes aureus* or *albus*, or the *Micrococcus pyogenes*.

Dr. Doyle remarked that in the expectoration of a patient he had had under his care for catarrhal pneumonia he had discovered quantities of very minute bacilli. He had never found them in cases of croupous pneumonia.

Dr. Graves said it was a well-known fact that in children tubercle could exist for a number of years on the surface of the pleura without producing pus; and even afterward, in the event of effusion taking place, there would still be no pus.

Dr. Myles said there seemed to be a good deal of hair-splitting on this question. The normal tendency in every case of tubercle was the production of pus.

Dr. Bewley, in reply, said that, taking the observations of Dr. McWeeney and Dr. Paterson together, they had mentioned two organisms—the pneumonia coccus and the tubercular bacillus. As to the first of these, Professor Fränkel, in his book, stated that he had found a pure cultivation of it in the pus of several cases of empyema; and in some of his papers he stated that the organism in question was one of those that produced empyema, and that on that account a peculiarly favorable prognosis was afforded in cases in which it occurred. As to the tubercular bacillus, the speaker believed it had the power of forming pus. Many old-standing abscesses that were met with in connection with carious spine were now being regarded as tubercular in their origin; and, in discussions which took place in Berlin a year and a half ago, several cases had been mentioned in which either no organisms were found or else only those of tuberculosis. As to the mode in which these organisms acted on the pleura he could not exactly speak. Other organisms might get in and afterward die out, for in some long-continuing abscesses it was found that the organisms which caused the abscess died out. At the discussion to which he alluded, others as well as Dr. Fränkel appeared to consider that the organisms were the cause of empyema, or, in other words, of the pus.

Book Notices.

A Text-book of Animal Physiology, with Introductory Chapters on General Biology and a Full Treatment of Reproduction. For Students of Human and Comparative (Veterinary) Medicine and of General Biology. By Wesley Mills, M. A., M. D., L. R. C. P. (Eng.), Professor of Physiology in McGill University and the Veterinary College, Montreal. With over Five Hundred Illustrations. New York: D. Appleton & Company, 1889. Pp. xxii–700. [Price, $5.]

In the preface the author says: "The comparative method, the introduction of the teachings of embryology and of the welding principles of evolution as part of the essential structure of zoology, may be said to have completely revolutionized that science; and there is scarcely a text-book treating of the subject, however elementary, which has not been molded in accordance with these guiding lines of thought. So far as I am aware, this can not be said of a single book on the subject of physiology. Feeling, therefore, that the time had come for the appearance of a work which should attempt to do, in some degree at least, for physiology what has been so well done for morphology, the present task was undertaken." The result is one of the remarkable books of the year, valuable alike for its breadth and its precision. The author's view of the unification of all science pertaining to living matter makes it quite impossible for him to begin his book with a chapter on digestion or respiration, or any other part of the whole. Dr. Mills begins with embryonic life and birth, with the individual, with human independent beginnings. It is the cell, the cell, and always the cell that he has in mind, like Goethe and his beloved Greeks. And the cell is traced in all its changes throughout the development of animal life. A protest is raised against the prevalent bad habit of speaking of certain conclusions in regard to various organs and functions, whatever the species of animal experimented upon, as if they applied to these organs and thei office in whatever group of animals found, or, at all events, in man. How can fragmentary and heterogeneous evidence, derived from experiments on a few groups of animals, o from a certain amount of clinical or pathological evidence, b termed a treatise on human physiology? A persistent effor has been made to impress the necessity of ever rememberin the interdependence of all parts. Digestion is not for digesion alone, but for circulation, respiration, nervous force, and every other complexus of motions within the organism. Unless the mind firmly grasps this idea, making it an integral part of all its methods, it is impossible to arrive at definite conclusions of real value in regard to the wide world of natural objects or the narrower one of unnatural organisms (in a sense) of the hospital ward. The consideration of the unity and indivisibility of the human organism has been the author's aim, together with a wise recognition of individual differences actually existing and the possible differences in function among different groups of animals. There is everywhere manifest throughout these fascinating pages the firm reliance upon the unmeasurable and exhaustless vitality of nature, of which one expression is the power of new adjustment or the unfailing law of compensation. Sentences here and there are sufficiently suggestive to serve as texts for whole sermons on science, which has aptly been defined as the orderly arrangement of facts according to an underlying principle. Take, for instance, this: "The ability that one protoplasmic cell-mass has to initiate in others, under certain circumstances, like conditions of its own is worthy of more serious consideration in health and disease than it has yet received. . . . Apparently in all hearts there is a functional connection leading to a regular sequence of beat in the different parts, in which the sinus or its representative (the terminations of great veins in the heart) always takes the initiative. One part having contracted, the others must necessarily follow; hence the rapid onset of the ventricular after the auricular contraction in the mammal, and the long wave of contraction that seems to pass evenly over the whole organ in cold-blooded animals. The basis of all those factors is to be sought finally in the *natural contractility of protoplasm.* A heart in its most developed form still retains, so to speak, the inherited but modified amœba in its every cell." And again: "Digestion and assimilation—in other terms, the metabolic processes of the various tissues—in a somewhat restricted sense, are closely related. Beneath the common observation that 'digestion waits on appetite' lies the deeper truth that food is not prepared in the alimentary canal (digested) without some relation to the needs of the system generally. In other words, the voice of the tissues elsewhere is heard in the councils of the digestive tract, and is regarded; and this is effected chiefly through the nervous system."

The consideration of the brain and nervous system is a cautious and skillful record of scientific research. It proves how little is definitely known of this engrossing chapter of physiological history. But whatever stands the test of investigation finds here its place and emphasizes anew the interdependence and inseparability of function whenever found and of whatever kind. Viewed in the light of such teaching, existence becomes richer and fuller; for the lower animals, humanity's dumb cousins, and our distant relatives the plants and even the lowest forms of vegetable life, together with majestic mountain and tiny grain of sea sand, assume in human consciousness a definite and harmonious inseparableness when the laws of development are clearly understood. By such a book as this the intense morality of science is more firmly established in public opinion. The kinship of nature, when thoroughly understood, banishes cruelty—even cruelty to "the least of these." An acquaintance with the beginnings of life and growth gives a thousand interests before undreamed of, expands the mind, and fills the heart. And thus the scientific truth-seeker of broad vision and precise expression becomes a public benefactor when his careful observations and logical conclusions assume a tangible shape, as in the work under consideration. The book marks a new departure in the study of life and its wonders; and those who have waited long receive it with gratitude and praise.

BOOKS AND PAMPHLETS RECEIVED.

A Text-book of Obstetrics, including the Pathology and Therapeuties of the Puerperal State. Designed for Practitioners and Students of Medicine. By F. Winckel, Professor of Gynæcology and Director of the Royal Hospital for Women, etc., Munich. Translated from the First German Edition, with Permission of the Author, under the Supervision of J. Clifton Edgar, A. M., M. D., Adjunct Professor of Obstetries in the Medieal Department of the University of the City of New York. One Hundred and Ninety Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xxiii–17 to 927. [Priec, $6.]

The Bradshaw Leeture on Colotomy, Lumbar and Iliac, with Special Referenee to the Choice of Operation. Delivered before the Royal College of Surgeons, of England, December 5, 1889. By Thomas Bryant, F. R. C. S., M. Ch. (Hon.) Roy. Univ. I., etc. London: J. & A. Churchill, 1890. Pp. 47.

The Cause of Death from Chloroform. By H. C. Wood, M. D., and H. A. Hare, M. D. [Reprinted from the Medical News.]

Anomalies of the Ocular Muscles. Third Paper. By Dr. George T. Stevens, of New York. [Reprinted from the Archives of Ophthalmology.]

Remarks upon Extinet Mammals of the United States. By R. W. Shufeldt. [Reprinted from the American Field.]

Some Complications of Chronic Endarteritis. By W. B. Canfield, A. M., M. D., Baltimore. (Read as an Admission Paper before the Baltimore Academy of Medicine, April 19, 1887.) [Reprinted from the Medical Record.]

Report of the Section in Praetice of Medicine. 1. The Relation of Dusty Occupations to Pulmonary Phthisis. 2. The Present Aspect of the Question as to the Ætiology of Pneumonia. 3. The More Recent Treatment of Pulmonary Phthisis. By W. B. Canfield, A. M., M. D. [Reprinted from the Transactions of the Medical and Chirurgical Faculty of Maryland.]

The Student's Surgery. A Multum in Parvò. By Frederick James Gant, F. R. C. S., Senior Surgeon to the Royal Free Hospital. Philadelphia: Lea Brothers & Co., 1890. Pp. xxxv–817. [Price, $3.75.]

A Treatise on Headache and Neuralgia, including Spinal Irritation and a Disquisition on Normal and Morbid Sleep. By J. Leonard Corning, M. A., M. D., Consultant in Nervous Diseases to St. Francis's Hospital, ete. With an Appendix. Eye-strain, a Cause of Headache. By David Webster, M. D., Professor of Ophthalmology in the New York Polyclinic. Illustrated. Seeond Edition. New York: E. B. Treat, 1890. Pp. 10–15 to 259. [Price, $2.75.]

Spinal Concussion: surgieally considered as a Cause of Spinal Injury, and neurologically restricted to a Certain Symptom Group, for whieh is suggested the Designation Erichsen's Disease, as one Form of the Traumatic Neuroses. By S. V. Clevenger, M. D., Consulting Physieian, Reese and Alexian Hospitals; late Pathologist, County Insane Asylum, Chicago, etc. With Thirty Wood Engravings. Philadelphia and London: F. A. Davis, 1889. Pp. v–359. [Price, $2.50.]

Food in Health and Disease. By I. Burney Yeo, M. D., F. R. C. P., Professor of Clinical Therapeutics in King's College, London, etc. Philadelphia: Lea Brothers & Co., 1890. Pp. x–583. [Price, $2.]

Essentials of Gynæcology. Arranged in the Form of Questions and Answers prepared especially for Students of Medieine. By Edwin B. Cragin, M. D., Attending Gynæcologist to the Roosevelt Hospital, Outpatient Department, etc. With Fifty-eight Illustrations. Philadelphia: W. B. Saunders, 1890. Pp. viii–17 to 192. [Saunders's Question Compends, No. 10.]

The Pulse. By W. H. Broadbent, M. D., Fellow of the Royal College of Physicians; Senior Physician to and Lecturer on Clinical Medicine in the Medical School of St. Mary's Hospital, etc. Illustrated with Fifty Sphygmographic Traeings. Philadelphia: Lea Brothers & Co., 1890. Pp. vi–312. [Price, $1.75.]

Health Notes for Students. By Burt G. Wilder, B. S., M. D., Professor of Physiology, Comparative Anatomy, and Zoology in Cornell University. Second Edition, revised and enlarged. New York and London: G. P. Putnam's Sons, 1890. Pp. 6–7 to 75.

Exposé des effets produits chez l'homme par des injections souscutanées d'un suc retiré des testicules d'animaux vivants ou venant de mourir. Par le Dr. Brown-Séquard, membre de l'Institut, professeur au Collége de France. Paris: G. Masson, 1890.

Tenth Annual Report of the State Board of Health of Illinois. With an Appendix embracing Coroners' Inquests, Meteorological Tables, Illinois Army Board of Medical Examiners, Official Register of Physicians and Midwives, 1890.

L'influenza à Constantinople. Par le Dr. J. B. Violi. [Extrait du Journal Stamboul.]

The Scrofulous Diathesis. By I. N. Love, M. D., St. Louis, Mo. [Reprinted from the New England Medical Monthly.] .

The Auriculo-ventricular (Presystolic) Sound. Some Considerations on Cardiac Disease in Early Life. By Henry Dwight Chapin, A. M., M. D. [Reprinted from the Medical Record.]

Sulla vaccinazione. Conferenza tenuta al Congresso internazionale d'igiene di Vienna. Dal Dott. G. B. Violi. Tradotta da F. Pullè. [Estratto dalla Rassegna di scienze mediche.]

Annual Report of the Board of Managers of the New York State Reformatory at Elmira. For the Year ending September 30, 1889.

The Peroneal Form or Leg-type of Progressive Muscular Atrophy. By B. Sachs, M. D., New York. [Reprinted from Brain.]

A Study of Aneurysm of the Pulmonary Artery, with the Report of a Case. By Charles B. Williams, A. B., M. D. Philadelphia. [Reprinted from the Transactions of the Philadelphia County Medical Society.]

A Septic and Unusual Form of Lung Disease existing in the Mississippi Valley during the Years 1886–'90. By William Carr Glasgow, M. D., St. Louis. [Reprinted from the American Journal of the Medical Sciences.]

Practical Electricity in Medicine and Surgery. By G. A. Liebig, Jr., Ph. D., Assistant in Electricity, Johns Hopkins University, etc., and George H. Rohé, M. D., Professor of Obstetrics and Hygiene, College of Physicians and Surgeons, Baltimore, etc. Profusely illustrated. Philadelphia and London: F. A. Davis, 1890. Pp. viii–3 to 383. [Price, $2.]

The Neuroses of the Genito-urinary System in the Male, with Sterility and Impotence. By Dr. R. Ultzmann, Professor of Genito-urinary Diseases in the University of Vienna. Translated by Gardner W. Allen, M. D., Surgeon in the Genito-urinary Department, Boston Dispensary. Philadelphia and London: F. A. Davis, 1890. Pp. 8 to 160. [Price, $1.]

The Medical Annual and Practitioner's Index: A Work of Reference for Medical Practitioners. 1890. Eighth Year. New York: E. B. Treat and Company. Pp. xix–571. [Price, $2.75.]

Études de clinique infantile. Syphilis héréditaire précoce; laryngite syphilitique; broncho-pneumonie par infection intestinale; prophylaxie de la rougéole et de la diphthérie à l'Hospice des enfants-assistés. Par le Dr. Sevestre, médecin de l'Hospice des enfants-assistés. Paris: E. Lecrosnier et Babé, 1889. Pp. 3 to 141. [Publications du Progrès médical.]

Methods of Examination in Medico-legal Cases involving Suits for Damages for Real or Supposed Injuries to the Brain and Spinal Cord. By Philip Coombs Knapp, A. M., M. D., Boston. [Reprinted from the Boston Medical and Surgical Journal.]

The Insanity of Doubt. By Philip Coombs Knapp, A. M., M. D., Boston. [Reprinted from the American Journal of Psychology.]

Sixty-third Annual Report of the Directors of the General Hospital Society of Connecticut. For the Year 1889.

A Practical Application of the Science of Obstetrics. By T. Ridgway Barker, M. D., Philadelphia. [Reprinted from the Times and Register.]

Inflammation of the Vermiform Appendix; its Results, Diagnosis, and Treatment, together with the Reports of Seven Cases of Excision of the Vermiform Appendix for Perforative Appendicitis, with Exhibition of Five of the Patients. By Thomas G. Morton, M. D., Philadelphia. [Read before the College of Physicians of Philadelphia, January 1, 1890.]

The Medical Profession *versus* Criminal Abortion. By G. Maxwell Christine, A. M., M. D., Philadelphia, and J. E. Scattergood, Esq. [Reprinted from the Proceedings of the Pennsylvania State Homœopathic Society.]

The Sequels of Typhoid Fever. By G. Maxwell Christine, A. M., M. D. With Notes on a Case by Horace F. Ivins, M. D. [Reprinted from the Hahnemannian.]

Observaciones médico-legales sobre el caso de Don Estéban Verdú, por José de Armas y Cárdenas, abogado.

Proceedings of the Department of Superintendence of the National Educational Association, at its Meeting in Washington, March 6–8, 1889.

On Nasal Obstruction and Mouth Breathing as Factors in the Ætiology of Caries of the Teeth and in the Development of the Vaulted Palate. By Scanes Spicer, M. D., B. S. C. [Reprinted from the Transactions of the Odontological Society of Great Britain.]

Throat and Nose Affections in Children in Relation to Certain Derangements of Sleep, Temper, Spirits, Energy, and to Intellectual Power and other Brain Functions. By Scanes Spicer, M. D. Lond.

Transactions of the Medical Society of the State of California. Session of 1889.

Essentials of Diseases of the Skin, including the Syphilodermata Arranged in the Form of Questions and Answers, prepared especiall for Students of Medicine. By Henry W. Stelwagon, M. D., Ph. D., Attending Physician to the Philadelphia Dispensary for Skin Diseases etc. With Seventy-four Illustrations. Philadelphia: W. B. Saunders 1890. Pp. viii–17 to 270. [Saunders's Question Compends, No. 11.]

The Examination of Urine, Chemical and Microscopical, for Clinica Purposes. Arranged in the Form of Questions and Answers. By Lawrence Wolff, M. D., Physician to the German Hospital of Philadelphia Colored Plate and Numerous Illustrations. Philadelphia: W. B. Saunders, 1890. Pp. 17 to 66. [Saunders's Question Compends.]

Miscellany.

The Tenth International Medical Congress.—The Hamburg-American Packet Co. (C. B. Richard & Co., general passenger agents, 61 Broadway, New York, and 96 La Salle Street, Chicago) announces tha it has made arrangements with the committee for the transportation o physicians at reduced rates, as follows:

Express Service.—Columbia, July 17th, outward, $75 and $100 round trip, $150 and $200. Augusta Victoria, July 24th, outward $75 and $100; round trip, $150 and $200. Prior sailings, round trip $180 and $225.

Regular Service.—Wieland, July 19th, outward, $45; round trip $90, in rooms for four. Outward, $54; round trip, $103.50, in room for three. Outward, $67.50; round trip, $126, in rooms for two Prior sailings, round trip, $93.50, in rooms for four. Round trip $106.25, in rooms for three. Round trip, $127.50, in rooms for two.

The regulations and programme are as follows:

I. The Tenth International Medical Congress will be opened in Berlin on Monday, August 4, 1890, and will be closed on Saturday, August 9th.

II. The Congress shall consist of legally qualified medical men wh have inscribed themselves as members and have paid for their card o membership. Other men of science who interest themselves in th work of the Congress may be admitted as extraordinary members.

Those who take part in the Congress shall pay a subscription of 2 marks (£1 or $5) on being enrolled as members. For this sum the shall receive a copy of the Transactions as soon as they appear. Th enrollment shall take place at the beginning of the Congress. Gentlemen may, however, be enrolled as members by sending the amount o the subscription to the treasurer * with their name, professional status and residence appended.

III. The object of the Congress is an exclusively scientific one.

IV. The work of the Congress will be discharged by eighteen dif erent sections. The members shall declare upon enrollment to which ection or sections they intend more particularly to attach themselves.

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* Treasurer's address: Dr. M. Bartels, Berlin SW., Leipzigerstrass 75. Please inclose a visiting card.

V. The Committee on Organization shall, at the opening sitting of he Congress, suggest the election of a definite committee (or bureau), hich shall consist of a president, three vice-presidents, and of a number (as yet undetermined) of honorary presidents and secretaries.

At the first meeting of each section a president and a certain number of honorary presidents shall be elected; these latter shall conduct he business of the sections in turn with the presidents.

On account of the different languages employed, a suitable number of secretaries shall be chosen from among the foreign members. The duties of the foreign secretaries shall be confined to the meetings of the Congress.

After the termination of the Congress the editing of the Transactions shall be carried out by a committee especially appointed for this purpose.

VI. The Congress will assemble daily, either for a general meeting or for the labors of the different sections.

The general meetings will be held between eleven and two o'clock. Three such meetings will take place.

The time for the meetings of the various sections will be fixed by the special committee of each section, it being understood, however, that no such meetings are to take place during the hours allotted to the general meetings.

Joint meetings of two or more sections may be held, provided that the Bureau of the Congress can offer suitable rooms for such meetings.

VII. The general meetings shall be devoted to (*a*) transactions connected with the work and general management of the Congress; (*b*) addresses and communications of general interest.

VIII. Addresses in the general meetings, as well as in any extraordinary meetings which may be determined upon, can only be given by those who have been especially requested by the Committee on Organization.

IX. In the meetings of the sections, questions and problems will be discussed which have been agreed upon by the special committees on organization. The communications of those appointed by the committee to report on a subject shall form the basis of discussion. As far as time allows, other communications or proposals, proceeding from members and sanctioned by the Committee on Organization, may also be introduced for discussion. The bureau of each section decides as to the acceptance of such offered communications, and as to the order in which they shall come before the meeting, always provided that this point has not been already determined in the meeting itself by a decree of the section.

Scientific questions shall not be put to a vote.

X. Introductory addresses in the sections must, as a rule, not exceed *twenty minutes in length.* In the discussions no more than *ten minutes* are allowed to each speaker.

XI. All addresses and papers in the general and sectional meetings must be handed over to the secretaries in writing before the end of the meeting. The Editorial Committee shall decide whether—and to what extent—these written contributions shall be included in the printed Transactions of the Congress. The members who have taken part in the discussions will be requested to hand over to the secretaries, before the end of the day, in writing, the substance of their remarks.

XII. The official languages of all the meetings shall be German, English, and French. The Regulations, the Programme, and the Addenda for the day will be printed in all three languages.

It will, however, be allowable to make use of other languages for brief remarks, always provided that one of the members present is ready to translate such remarks into one of the official languages.

XIII. The acting president shall conduct the business of each meeting according to the parliamentary rules generally accepted in deliberative assemblies.

XIV. Medical students and other persons, ladies and gentlemen, who are not physicians, but who take a special interest in the work of a particular meeting, may be invited by the president or be allowed to attend the meeting by special permission.

XV. Communications or inquiries regarding the business of separate sections must be addressed to the managing members thereof. All other communications and inquiries must be directed to the General Secretary, Dr. Lassar, Berlin NW., 19 Karlstrasse.

SPECIAL SECTIONS—COMMITTEES ON ORGANIZATION.

(The names which appear in *Italic* are those of the managing members.)

1. *Anatomy.*—Flemming, Kiel; Hasse, Breslau; *Hertwig*, Berlin W., Maassenstr. 34; His, Leipzig; v. Kölliker, Würzburg; Kupffer, München; Merkel, Göttingen; Schwalbe, Strassburg; Wiedersheim, Freiburg.

2. *Physiology and Physiological Chemistry.*—Bernstein, Halle; Biedermann, Jena; *Du Bois-Reymond*, Berlin W., Neue Wilhelmstr. 15; Heidenhain, Breslau: Hensen, Kiel; Hüfner, Tübingen; Hoppe-Seyler, Strassburg; H. Munk, Berlin; Voit, München.

3. *General Pathology and Pathological Anatomy.*—Arnold, Heidelberg; Bollinger, München; Grawitz, Greifswald; Heller, Kiel; Ponfick, Breslau; v. Recklinghausen, Strassburg; *Virchow*, Berlin W., Schellingstr. 10; Weigert, Frankfurt a. M.; Zenker, Erlangen.

4. *Pharmacology.*—Binz, Bonn; Böhm, Leipzig; Filehne, Breslau; Jaffé, Königsberg; *Liebreich*, Berlin NW., Dorotheenstr. 34 a; Marmé, Göttingen; Penzoldt, Erlangen; Schmiedeberg, Strassburg; Hugo Schulz, Greifswald.

5. *Internal Medicine.*—Biermer, Breslau; Gerhardt, Berlin; Leube, Würzburg; *Leyden*, Berlin W., Thiergartenstr. 14; Lichtheim, Königsberg; Liebermeister, Tübingen; Mosler, Greifswald; Naunyn, Strassburg; v. Ziemssen, München.

6. *Diseases of Children.*—Baginsky, Berlin; *Henoch*, Berlin W., Bellevuestr. 8; Heubner, Leipzig; Kohts, Strassburg; Krabler, Greifswald; Ranke, München; Rehn, Frankfurt a. M.; Soltmann, Breslau; Steffen, Stettin.

7. *Surgery.*—Bardeleben, Berlin; *v. Bergmann*, Berlin NW., Alexander-Ufer 1; Czerny, Heidelberg; König, Göttingen; v. Lotzbeck, München; Schede, Hamburg; C. Thiersch, Leipzig; Trendelenburg, Bonn; Wagner, Königshütte.

8. *Obstetrics and Gynæcology.*—Fritsch, Breslau; Gusserow, Berlin; Hegar, Freiburg; Hofmeyer, Würzburg; Kaltenbach, Halle; Löhlein, Giessen; *Martin*, Berlin NW., Moltkestr. 2; Olshausen, Berlin; Winckel, München.

9. *Neuralgia and Psychiatry.*—Binswanger, Jena; Emminghaus, Freiburg; Erb, Heidelberg; Flechsig, Leipzig; Fürstner, Heidelberg; Grashey, München; Hitzig, Halle; Jolly, Strassburg; *Laehr*, Berlin-Zehlendorf.

10. *Ophthalmology.*—O. Becker, Heidelberg; Eversbusch, Erlangen; v. Hippel, Giessen; Hirschberg, Berlin; Leber, Göttingen; Michel, Würzburg; Schmidt-Rimpler, Marburg; *Schweigger*, Berlin NW., Roonstr. 6; v. Zehender, Rostock.

11. *Otology.*—Bezold, München; Bürkner, Göttingen; Kirchner, Würzburg; Kuhn, Strassburg; Kessel, Jena; *Lucæ*, Berlin W., Lützowplatz 9; Magnus, Königsberg; Moss, Heidelberg; Trautmann, Berlin.

12. *Laryngology and Rhinology.*—Beschorner, Dresden; *B. Fraenkel*, Berlin NW., Neustädtische Kirchstr. 12; Gottstein, Breslau; A. Hartmann, Berlin; Jurasz, Heidelberg; H. Krause, Berlin; Michael, Hamburg; Schech, München; M. Schmidt, Frankfurt a. M.

13. *Dermatology and Syphilography.*—Caspary, Königsberg; Doutrelepont, Bonn; Köbner, Berlin; *Lassar*, Berlin NW., Carlstr. 19; Lesser, Leipzig; G. Lewin, Berlin; Neisser, Breslau; Unna, Hamburg; Wolff, Strassburg.

14. *Diseases of the Teeth.*—*Busch*, Berlin NW., Alexander-Ufer 6; Calais, Hamburg; Hesse, Leipzig; Fricke, Kiel; Holländer, Halle; Miller, Berlin; Partsch, Breslau; Sauer, Berlin; Weil, München.

15. *Hygiene.*—Flügge, Breslau; Gaffky, Giessen; Graf, Elberfeld; F. Hofmann, Leipzig; R. Koch, Berlin; Lehmann, Würzburg; *Pistor*, Berlin W., v. d. Heydtstr. 13; Wolffhügel, Göttingen; Uffelmann, Rostock.

16. *Medical Geography and Climatology.*—Abel, Stettin; Brock, Berlin; Dettweiler, Falkenstein; Falkenstein, Lichterfelde; Finkelnburg, Bonn: Guttstadt, Berlin; *A. Hirsch*, Berlin W., Potsdamerstr. 113; Lent, Köln; Wernich, Cöslin.

17. *State Medicine.*—Falk, Berlin; Günther, Dresden; v. Hölder,

Stuttgart; Knauff, Heidelberg; *Liman*, Berlin SW., Königgrätzerstr. 46 a; Schönfeld, Berlin; Schwarz, Köln; Skrzeczka, Berlin; Ungar, Bonn.

18. Military Hygiene.—V. Coler, Berlin; v. Fichte, Stuttgart; Grasnick, Berlin; Grossheim, Berlin; *Kroeker*, Berlin W., Magdeburger Platz 3; Mehlhausen, Berlin; Mohr, München; Roth, Dresden; Wenzel, Berlin.

Meetings of State Medical Societies.—The annual meetings of State Medical Societies are announced as follows: Alabama, Birmingham, April 8th; Florida, Ocala, April 8th; Tennessee, Memphis, April 8th; California, Los Angeles, April 15th; Georgia, Brunswick, April 16th; Iowa, Des Moines, April 16th; Mississippi, Jackson, April 21st; Maryland, Baltimore, April 22d; Texas, Fort Worth, April 22d; South Carolina, Laurens, April 30th; Illinois, Chicago, May 6th; Kansas, Salina, May 13th; Louisiana, Baton Rouge, May 13th; Nebraska, Beatrice, May 13th; Arkansas, Little Rock, May 14th; Indiana, Indianapolis, May 14th; Kentucky, Henderson, May 14th; Washington, Spokane Falls, May 14th; Michigan, Grand Rapids, May 20th; Missouri, Excelsior Springs, May 20th; North Carolina, Oxford, May 27th; Connecticut, New Haven, May 28th; Ohio, Columbus, June 3d; Wisconsin, Milwaukee, June 4th; Delaware, Wilmington, June 10th; Maine, Portland, June 10th; Massachusetts, Boston, June 10th; New Jersey, Schooley's Mountain, June 10th; Pennsylvania, Philadelphia, June 10th; Dakota, Sioux Falls, June 12th; Rhode Island, Providence, June 12th; New Hampshire, Concord, June 16th; Colorado, Denver, June 17th; Minnesota, St. Paul, June 19th; Vermont, Rutland, June 26th (semi-annual); Virginia, Rockbridge Alum Springs (to be announced); Vermont, Montpelier (annual), October 9th; New York (State Medical Association), New York, October 22d. The American Medical Association meets at Nashville, Tenn., on May 20th to 23d. Announcements of the Oregon and West Virginia Societies have not been received.

Coca Leaves.—M. Angelo Mariani's interesting brochure on coca has lately been translated into English, and published by Mr. J. N. Jaros, of New York. We quote from it the following account of the leaves:

"The leaf of coca gathered in Peru . . . is generally larger and thicker than the leaf of the Bolivian coca. It is also richer in the alkaloid, consequently much more bitter. The coca leaf from Bolivia, smaller than the Peruvian leaf, is as much esteemed as the latter, although it contains less of the alkaloid. It possesses so exquisite and so soft an aroma, indeed, that the *coqueros* seek it in preference to any other. The coca leaves of Brazil and Colombia are much smaller than those of Peru and Bolivia. Their color is much paler. Containing but traces of the alkaloid, they are not bitter, and possess a pleasant but very volatile aroma. One of the most important characteristics of the coca leaf is the disposition of its nervures; parallel with the midrib two longitudinal projections are to be seen, which, starting from the base of the leaf, extend in a gentle curve to its point. The upper surface of these leaves is of a beautiful green tint; the lower surface of a paler green, except, however, near the midrib. At this point there is a strip of green darker than the rest, which becomes brown in the withered leaves."

The late Dr. C. S. Wood.—The Northwestern Medical and Surgical Society of New York, at a meeting held on February 19, 1890, adopted the following minutes:

The Northwestern Medical and Surgical Society, by the death of Dr. C. S. Wood, has lost one of its most honored members; and, in response to a call from the president, a large number of the members sorrowfully attended his funeral. Dr. Wood was one of the founders of this society, and during the first twenty years after its organization took a deep interest in all its proceedings. He was one of its early presidents, and, by his contributions of worthy papers and his interesting remarks upon most subjects connected with general medicine, greatly added to the usefulness of its proceedings. Dr. Wood's early ambition drew him to the profession of medicine, and, overcoming many obstacles, he entered its ranks with honor, soon to take a prominent position in the county where he first located, but he relinquished all his opportunities to enter the service of the United States at the commencement of the war, and soon rose to the rank of surgeon of volunteers, and a the end of the war was ordered to duty in California, where he remained until 1866, after which he returned East and settled in New York.

Dr. Wood's graphic accounts of the wounded soldiers on the battle-fields of Gettysburg, South Mountain, Antietam, Chancellorsville, and Fredericksburg are on record in the Medical and Surgical History o the War of the Rebellion. Dr. Wood had been president of the Medico-legal Society of New York, and at his death was president of the New York County Medical Association. Dr. Wood was a noble man, a kin and loving father, a patriotic, faithful citizen, and a good physician.

ANSWERS TO CORRESPONDENTS.

No. 312.—We have not been able to find any allusion to the treatment of necrosis or caries with injections of iodoform dissolved in ether. Verneuil has recommended this treatment for cold abscesses, the abscess being opened by aspiration, and 50 or 60 grammes of a 1-to-20 solution of iodoform in ether being injected, the injection not t be repeated unless the abscess fills again.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "origina contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will b published as promptly as our other engagements will admit of—w can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

LECTURES ON SOME POINTS IN THE TREATMENT AND MANAGEMENT OF NEUROSES.

DELIVERED BEFORE THE
MEDICAL SOCIETY OF THE UNIVERSITY OF TORONTO,
March 11 and 12, 1890.

By E. C. SEGUIN, M. D.,
PROVIDENCE, R. I.

Lecture I.

(*Continued from page 342.*)

Having thus spoken of the exhibition and division of the daily dose, I will now consider the question of uniformity of dosage from day to day, week to week, etc. In a few cases, particularly those of *grand mal*, in which attacks occur only at night, after you have discovered the dose necessary to produce therapeutic bromism, it is not necessary to make any change for months or even years. I have had patients doing well (*i. e.*, perfectly free from attacks and in good health) taking four teaspoonfuls (= 60 grains of NaBr) of the solution, or an equivalent powder, at bedtime for three years and more. Many cases have attacks at intervals which may be quasi-regular—*e. g.*, pre-menstrual, fortnightly or weekly (approximately). In such cases much good may be done by increasing the daily dose just before the dangerous period and keeping this up for a few days then returning to a minimum quantity. In this way the bromism is made to follow a curve corresponding to but anticipating that of the attacks. In many female epileptics, whose epilepsy is not at all of reflex origin, many more attacks are grouped about the beginning of the menses or occur just before. In such cases very small doses (from ten to twenty grains twice a day) will suffice for the majority of the days in each month, if the dose be raised to forty or sixty grains twice a day for the four or six dangerous days.

There are many other reasons which demand a temporary increase or decrease in the daily dose of bromides in epilepsy, and you should always bear these in mind. Only by unceasing vigilance can you prevent relapses or avoid plunging your patient into a deplorable state of bromism. Reasons for increase of dose: 1. Increasing age and size of young patients; particularly the approach of the menstrual function. A chronic case of epilepsy which, at the age of ten or twelve years, has been doing well with from twenty to sixty grains of bromide a day, will need an increased dose every two years at least (unless, of course, the attacks have been completely suspended). 2. The exposure of the patient to unusual excitement or fatigue. Thus, in a chronic case, I direct an extra dose of ten, fifteen, or twenty grains to be taken before the patient goes to a party, or to the theatre, or before starting on a journey. This little precaution is, I believe, of much service, and enables you to keep the ordinary dose down to a minimum. Reasons for reducing the dose of bromide: 1. When a patient has been three years without *any* manifestation of the disease, I begin a systematic reduction of the bromide, taking off from a half to a teaspoonful (7 to 15 grains) every three or four months. This brings the dose down to a very small quantity by the end of the fourth year, when, in very promising (*i. e.*, perfectly healthy) subjects the medicine may be altogether omitted and strict hygiene alone enjoined. But, even then, after four years of perfect freedom from *grand* or *petit mal*, I believe that it is well to give some bromide occasionally, when the patient is to be exposed to excitement, worry, or fatigue. 2. The seasons of the year, by their influence on health and bodily strength, make some difference in the dosage. Thus, maximum doses are well borne in autumn and winter, while in the hot, debilitating summer months a marked reduction should be made in many cases, under penalty of pathological bromism. 3. Temporary ill-health. One of my cardinal rules, and one which I enjoin most emphatically upon the patient and his friends at the beginning of treatment, is that the bromides may be reduced, but must never be wholly omitted—at least, not without the direct order of a skilled physician. During common colds, attacks of diarrhœa, simple acute febrile diseases, and surgical affections a certain reduction should be made, as under these conditions bromism easily ensues. Besides, we know that injuries and acute diseases of themselves act as anti-epileptics, and that there is little danger of an attack until convalescence is advanced. Still, a small quantity should be given every day. In case of very severe illness, especially those in which a typhous condition or tendency is present, the drug may be discontinued, to be resumed in small doses as soon as recovery begins.

(*k*) It is extremely difficult to insure the necessary regularity in the taking of bromides, and without absolute exactness in this respect success is impossible. One difficulty lies in the forgetfulness and feeble-mindedness of many epileptics; they mean to take their medicine regularly, but often forget it. This obstacle I have to a great extent overcome in my practice by insisting that the doses shall be given, even to adult patients, by another person—a relative or friend of the patient. I now make this a condition of my assuming charge of a case. I make some one else than the patient responsible for the dosage. It causes trouble to the family, but the results are gratifying. Besides the element of forgetfulness, there is the danger, by no means imaginary, that the patient shall take an extra dose, or a double dose when he has the fancy. Occasionally we have to deal with a friendless patient, or one who is exceptionally well-balanced and exact; in which cases we must or may allow him to take the medicine himself. The adjuvants to the treatment may usually be left in the patient's hands, except often the arsenic. Other obstacles consist in the over-confidence, discouragement, or ignorance of the patient. Very often, when a person has been taking bromide for several months, or a year or more, and has been free from attacks, he will of his own accord cease or intermit the bromide, with the certain result of relapse. Or, after seeking the proper dose for many weeks, the epileptic attacks continue or unpleasant bromism is produced, and in such cases only full confidence on the patient's part and frank statements of the difficulties by the physician can insure continuance. Ignorance of the nature of the attacks is a considerable difficulty in the way of successful treatment. Frequently the patient knows next to nothing of his disease, or thinks that he "faints," or has "dizzy" or "nervous spells," and naturally he rebels against the rigid hygiene and exact dosage you direct. Occasionally, in the case of a very docile child, it may be well to keep the nature of the ailment secret, and trust to parental authority and watchfulness to secure thorough treatment. Usually, however, the better plan is to tell the patient, in guarded terms, that he has epilepsy, or that his attacks resemble or threaten epilepsy. By tact the physician can, in this, as in cardiac disease, tell the patient enough to insure obedience without producing alarm or despair. More especially is this frankness necessary when patients are from sixteen to thirty years of age, a time when courting is in order and when a matrimonial engagement may be contracted with or without the parents' knowledge. Much misery may be prevented by letting the patient know more or less about his ailment, and making him understand that an engagement should not be thought of until a cure has been obtained. A difficulty, also due to ignorance, is that patients, relatives, and even the family physician, refuse to admit the epileptic nature of very slight attacks. I have known a physician allow his own daughter to go on for twelve years with *petit mal* without making any attempt at treatment or seeking advice.* Travel sometimes stands in the way of continuous treatment, but it need not if you are careful to give written directions to your patient, and see that he goes off with a sufficient supply of medicines and with prescriptions. In order to insure regularity in the treatment, my custom has been to explain the nature of the case, and the absolute necessity of faithful, exact treatment, to the patient and his responsible relatives or friends, and to tell them that I shall give up the case unless everything is done precisely as ordered. Besides, to avoid any excuse for neglect, I give written directions at each visit about the medicines, diet, hygiene, and amount of work to be allowed. This means trouble and the expenditure of a little more time, but, gentlemen, it also means success, relative or absolute. More especially is it desirable to give written instructions to cases which, as they are doing well, you see only a few times a year.

From these statements you perceive that I am in favor of what has been termed the continuous dosage of bromide as against the intermittent giving of larger doses. Most emphatically I am. The latter plan must, of necessity, be to a great extent a hap-hazard or "hit-or-miss" plan of treatment.†

I would have you always bear in mind that the problem is to give just as little bromide as shall secure the patient against attacks; a distinct therapeutic bromism is to be produced and kept up, and pathological bromism avoided.

It may seem to some of you that I have gone into the question of the administration of bromides at an unnecessary length, but I think I am justified in this by the fact that the books accessible to practitioners do not, and indeed can not, give necessary details, and that I have found the failure of excellent physicians in cases of epilepsy to be due to want of knowledge of many of the points I have brought to your attention. I trust that this will be an acceptable excuse for being so prolix. Besides, I trust that I have succeeded in impressing upon you that the successful management of a bromide treatment requires extreme attention to details and ceaseless vigilance, besides knowledge.

The question is often asked, Can you not give some other drug besides bromides to subdue or control the attacks? In some cases this is asked because the patient is tired of taking bromides, or has a prejudice against them, but in other cases the reason is much stronger, and consists in the fact that the patient is unfavorably affected by bromides, severe confluent acne (*ulcus elevatum*), persistent indigestion, undue somnolence from small doses, or dementia being produced. Such cases are rare, but are just those that tax our resources. A few years ago the answer would have been negative; no drug was then known which controlled epilepsy in a manner at all comparable with that of bromides. Belladonna, zinc, nitrate of silver, nux vomica, arsenic, etc.—an endless number of drugs—have been proposed for the treatment of this disease, but not one of them will secure long intervals of freedom. Some of them, particularly belladonna and nux vomica (or their alkaloids), are useful as adjuvants to the bromide treatment, and should not be neglected.

In the year 1882, guided by the well-known efficacy of chloral hydrate in eclampsia of adults or children, and in *status epilepticus*, I began incorporating some of this drug with the bromides, substituting a certain amount of chloral for a like amount of bromide. I adopted two formulas on the same plan as my simple bromide solutions, viz.:

(1) A weaker solution:

Apothecaries' Weight.

℞ Chlorali	ʒ ij;
Sodii bromidi	ʒ x;
Aquæ	℥ vij.

Metric Weight.

℞ Chloral	7·50;
Sodium bromide	37·50;
Water	200·00.

One teaspoonful of this solution contains about three grains of chloral and twelve grains of bromide.

(2) A stronger solution:

Apothecaries' Weight.

℞ Chlorali	℥ ss.;
Sodii bromidi	℥ j;
Aquæ	℥ vij.

Metric Weight.

℞ Chloral	15·00;
Sodium bromide	30·00;
Water	200·00.

Each teaspoonful contains, approximately, 5 grains of chloral and 10 grains of sodium bromide = 15 grains (1·00) of anti-convulsive drugs.

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* Opera Minora, p. 547, Case IX. Also in N. Y. Medical Record, Aug. 6 and 13, 1881.

† Dr. L. C. Gray, in an excellent paper on this subject (N. Y. Med. Jour., June 28 and July 5, 1884), has likewise reported his failure with the intermittent plan.

I have been credited, through a friendly mistake, with proposing chloral as a "cure" for epilepsy. Such a claim would be absurd; I have never referred to any drug as a "cure" for epilepsy. But I have found this new combination of much utility in the long-continued treatment of some cases of epilepsy; that is all. In a few cases I have gradually increased the chloral to an equal quantity with the bromide, or even more. What are the indications for the use of a chloral-bromide solution in preference to a simple bromide solution?

First and foremost, the occurrence of very severe acne, of confluent form, with resultant large, elevated, fœtid ulcers on various parts of the body, more especially the legs. In 1882 * I gave a description of this lesion, which is extremely painful, and which can hardly be cured while the patient is taking useful doses of bromide. Later I learned that the lesion had already been described by Voisin.† In several such cases I have substituted chloral for a large part of the bromide, with remarkable results, the ulcers healing rapidly under a simple antiseptic dressing, the patient's general health improving by cessation of pain and better sleep, and, equally important, the attacks being prevented fully as well, perhaps better, than by the free use of bromide alone. In the last ten years I have had under my care a case of incurable chronic epilepsy (from three to six attacks a year), in which simple but deeply-marking acne of the face had repeatedly led the patient to give up bromide treatment, with the usual result of aggravation of attacks each time. Her face was and is still extensively scarred, as if by smallpox. In the last two years, taking a solution (same standard strength) of equal parts of bromide and chloral, she has had fewer attacks than at any previous time, and hardly one pustule a month has appeared.

Another indication for this general substitution of more or less chloral for equivalent parts of bromide is unusual debility and mental dullness from the amount of bromide found necessary to control the attacks. If, in such a case, we reduce the bromide even by half a teaspoonful (7½ grains, or 0·50), convulsions recur. Now, with such a patient, you will be surprised at the improvement which follows giving some chloral (never as much as for severe acne). The first few doses may produce a (quasi-normal) sleepy feeling, but this soon wears off; the circulation improves, the patient grows stronger, and the memory and other mental functions rapidly regain as much power as they had prior to saturation by bromide. This category of cases is quite large, and in feeble, demented epileptics I often begin treatment with the weaker chloral-bromide solution, using the stronger later, if bromism is too easily produced.

Occasionally we meet with a case in which the cessation of epileptic seizures through bromide treatment is followed by the appearance of mental disturbance, usually mania. I have not seen such a case (they are excessively rare out of asylums) since beginning to use chloral, but I incline to the opinion that its substitution, in part or wholly, for the bromide might control both the physical and psychical manifestations of the disease.

I am confident that chloral is as good an anti-epileptic or anti-convulsive agent as the bromides, and that it is much better tolerated by some patients; it certainly affects the cardiac nerves and cortex of the brain less unfavorably.

Occasionally, I may say rarely, ocular irritation has been produced by the chloral, but no other bad effect has been observed. The narcotic effects of the drug are not noticed, or very slightly, after a few days or weeks of use.

This lecture is already so long that I can only refer very briefly to a few of the many other points of interest in the treatment of epilepsy.

I have already expressed my opinion as to the value of castration, ocular treatment, and the administration of the numerous drugs which from time to time have been fashionable, and from which each originator expected so much. These are accessory or adjuvantial treatments or remedies, each one useful in well-selected cases, and we should endeavor constantly to discover indications for their use; but I beg you never to depend solely on any one of these measures or drugs, however lauded it may be by its advocates. In idiopathic epilepsy (and to a less degree in the symptomatic form) a continuous systematic treatment by bromides, alone or combined with chloral, is indispensable, and I believe that it is criminal to omit it. Without it our patient is sure to have more and more attacks (even if a temporary long interval be at first obtained, as in a few of the cases treated by section of ocular muscles and by glasses). With the bromide treatment, carefully watched, we are able to relieve almost all cases of *grand mal*, and in a certain proportion of cases to obtain intervals of from one to five years free from seizures—almost a cure. The evil effects of bromide saturation are avoidable in ninety-nine out of one hundred cases by watchfulness and by co-operative medication, and especially by attention to hygiene and diet (*vide* next lecture).

The treatment of *petit mal* is much less satisfactory than that of *grand mal*, and frequently it is not at all checked by reasonable doses of bromides, or even when bromism is well marked. Although there is a slight tonic spasm in nearly all *petit-mal* seizures, the motor zone and apparatus are less involved than in *grand mal*, so that remedies like bromides and chloral which diminish the excitability of those parts of the brain are not theoretically sufficient, and seldom succeed in practice.

I have derived good results from combining with a very moderate bromide course the free use of strychnine and atropine or belladonna, giving usually the sulphate of strychnine dissolved in dilute nitro-muriatic acid, gr. ij to ℥ j (0·10 to 30·00), the dose to vary from six to sixteen drops after meals, well diluted. Atropine is conveniently given in the shape of pills or granules of $\frac{1}{300}$ grain (0·0002), which are manufactured by several reliable firms. I give from three to four or even six a day—enough to produce a decided effect on the pupils and mouth. Digitalis, ergot, and ergotine have seemed to succeed in some cases of *petit mal*, and I am inclined to think that it is in such cases that accessory treatment of existing ocular defects may be of greatest use. In this may lie the reason for the success of atropine or of strychnine in diverse cases. In some there is weakness of accommodation and feebleness of the interni (exophoria); these will be benefited by nux vomica or strychnine, which has, as I have been led to believe by several years' observation, a specific effect upon the third cerebral nerve, strengthening it and its attached muscles (internal recti and ciliary muscle). In other cases, where the externi are weak (esophoria), belladonna or atropine, by producing a paretic condition of the third nerve and dependent muscles (including the iris), relieves the strain and brings relief. I desire to enter a caveat also as regards the beneficial action of these two drugs in different cases of headache and of cephalic paræsthesia (many cases of so-called cerebral hyperæmia) from eye-strain. The drugs atropine or strychnine may be used in such cases for diagnostic as well as for therapeutic purposes. Allow me to repeat that I believe that strychnine strengthens the third cranial nerve and its muscles (especially the internal rectus and ciliary muscle), while atropine (also gelsemium and conium and mydriatics generally) produces a paresis of the same nerve and muscles. Thus one drug acts as a tonic of special local action and of considerable duration, while the other relieves strain by relaxing or weakening the same nervo-muscular apparatus. These organic affinities are not more singular than others which are well known in the fields of experimental and practical therapeutics. Let me ask you to make a trial of these two indications in your treatment of headaches, bad feelings about the head (occipital usually), and epilepsy—overactive interni and ciliary muscle calling for atropine, weak interni and ciliary muscle calling for strychnine.

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* Opera Minora, p. 629; or Archives of Medicine (New York), October, 1882.

† De l'emploi du bromure de potassium dans les maladies nerveuses. Paris, 1875.

Digitalis, strophanthus, and caffeine * are especially useful prescribed occasionally for patients whose hearts are diseased or weak and whose peripheral circulation is sluggish. They also best counteract some of the worst effects of too much bromide.

A word about arsenic. It is invaluable as a remedy for the acne which annoys epileptics so much. Some authorities advise giving small doses (from three to six drops) of Fowler's solution with each dose of bromide for long periods, but I have obtained better results by directing that a larger dose be taken for a short time occasionally; thus, a one-twentieth-of-a-grain arsenious-acid granule after each meal for one week in each month. Thorough washing of the face with a good soap and with a little ammonia added to the (warm) water should be practiced daily. Ointments are of little use, the best being those containing sulphur.†

Iron and cod-liver oil are frequently called for in the course of a long-continued antiepileptic treatment. I shall refer more at length to the use of cod-liver oil while speaking of diet. One of the remedies to which I attach much importance, particularly in idiopathic epilepsy in children whose teeth are bad or notched or typically Hutchinsonian, is the bichloride of mercury. I give it for long periods of time in doses of from $\frac{1}{100}$ to $\frac{1}{30}$ of a grain (0·0008 to 0·002) in an elixir of gentian or calisaya bark. My experience with iodide of potassium in such cases has not been satisfactory, though I mean to make further experiments in this direction.

A number of drugs which at one time had a transient run owing to hasty reports by enthusiasts—such as oxide and sulphate of zinc, borax, curare, nitrate of silver—are now believed to be nearly useless, and are seldom prescribed; they certainly should never be depended upon to the exclusion of bromide.

I have taken up so much time with the details of the treatment of epilepsy that I can add but little of what I had intended saying about the treatment of some other neuroses. Consequently I may be pardoned if I put the result of my experience in this matter in the form of brief didactic statements.

II. Chorea.—(*a*) Our mainstay in the treatment of this affection is still arsenic. I have long taught that one reason why the medicinal treatment of chorea has seemed to be of little utility, and why a belief has grown up that the disease might terminate spontaneously, or only with the help of hygiene and tonics about as quickly as when strong drugs are used, is because physicians, almost without exception, give nearly useless doses of arsenic (Fowler's solution). Case after case has come to me, pursuing its semi-chronic or positively chronic course, while the patient was taking from six to ten drops of the solution. I have satisfied myself that chorea can be greatly shortened by the proper exhibition of arsenic, but that to obtain a striking result it is necessary, in most cases, to go beyond fifteen drops three times a day.

In many choreic patients when the dose of ten or twelve or fourteen drops of Fowler's solution three times a day has been attained, gastro-intestinal disturbance and redness of the eyes are apt to appear and necessitate a cessation of the treatment for two or three days. The important practical point to recollect is that after this interval of rest you can and should begin again *with the dose at which you left off*, and then go on to the really efficacious doses of from eighteen to twenty-five, or even twenty-seven, drops after each meal. Few cases of chorea, in my experience, show much improvement until a dose of sixteen to eighteen drops *ter die* is reached. In the case of arsenic, even more than in that of iodides and bromides, very free dilution of the dose is necessary; a large tumblerful of alkaline water, "still" or effervescent, should be given with each dose. Another error in practice is to oblige the patient to drink the dose at once. There is no necessity for this, and it is much better borne if it is taken in divided drinks during the hour following a meal.

As regards the evil effects of arsenic, I have only once in my large experience found albumin or albumin and casts in the urine of choreic patients, even when their eyes were puffy. In this single case the patient was an adult, and it is very probable, from the nature of the casts found, that renal disease existed prior to the administration of the arsenic. Herpes is said to be an occasional result of the excessive use of arsenic. I have had only one case in which, while the twelve-year-old child was taking about twenty-five drops *ter die*, there appeared a large vesicle on one side of the right thumb just back of the nail, which left quite a deep sear. Symptoms of multiple neuritis or of optic neuritis I have never seen from the medicinal use of arsenic. It is still my practice, however, to examine the urine of choreic patients from time to time during the arsenical treatment.

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* Pure caffeine only should be used, the citrate being a doubtful salt of very uncertain strength.

† The following modification of Dühring's formula has seemed useful:

℞ Sulph. precip........................ ʒ j (4·00);
Camphoræ........................ ʒ ss. (2·00);
Cerati. simpl., }
Ungt. aq. rosæ, } ....āā ℥ ss. (15·00).
M. Sig.: To be applied at bed-time.

(*b*) A most important factor in the successful treatment of chorea, especially in its chronic and relapsing forms, is rest—absolute rest. I can not overestimate its value. In many cases of simple recent chorea (first attacks of less than six months' duration) I have obtained a complete cure in three weeks by a combination of absolute rest, full dosage of arsenic, and nutritious food. The patient must not be allowed to play or read in bed, but should be amused by other persons by conversation and reading. Nor do I allow several members of the family (especially other children) to be in the same room at one time. The rest should be mental as well as physical. Some of these patients are sleepless at first, but a few evening doses of chloral or of hyoscyamia will procure quiet sleep, and may soon be omitted or given only twice a week. When the choreic movements have entirely ceased, the arsenic should be stopped at once rather than gradually, but release from the rest should be done only in the most cautious manner, and even during later convalescence for two or three months it is well to have the patient lie perfectly quiet for an hour or two in the latter part of the afternoon. Of course many choreic patients are anæmic and need iron, cold sponging followed by hard rubbing (but not massage). Again, others with weak hearts need digitalis or strophanthus as an adjuvant to the arsenical treatment. Except in cases where great irritability or sexual excitement exists, I consider the bromides as contra-indicated and injurious. Chorea is essentially a disease in which nerve power, particularly the inhibitory cerebral action, is deficient, and in such a condition the bromides only perpetuate or aggravate the evil. Circumcision is necessary in some cases; treatment of vulvar irritation in others. Of all the other modes of treatment of chorea, there is only one which I desire to speak of at some length. I refer to the correction of ocular defects. This is really an important matter, and Dr. Stevens deserves great credit for having so strongly called the attention of the profession to the desirability of examining by strict modern methods the refraction and oculo-motor functions of the eyes in all choreic subjects.* His idea of the importance of ocular defects or eye-strain in the genesis of chorea is, I think, extravagant, and I doubt if any case of general chorea has ever been or can be cured within a month by ocular treatment alone. Of the five cases of chorea treated by Dr. Stevens for the commission of the New York Neurological Society,* only one was cured (? a trace of chorea reappears in this patient [No. 1] † about the time of each menstrual period), and one (No. 4 of Report) was decidedly improved, but both these patients had been thirty months under treatment, had each had from thirteen to fourteen tenotomies performed, and had worn from eight to twelve pairs of glasses! In one of these cases (Case 1) improvement really began at about the thirtieth week of treatment, and in the other (Case 4) after the fifty-second week. One of these cases (No. 1) had resisted a treatment by arsenic and rest (?) of three months' duration, but the other (No. 4) never had a thorough arsenic course and was not put to bed (they were both patients of mine), but was turned over to Dr. Stevens within twelve weeks after my taking charge of him. In one other case (No. 11) some improvement appeared, leaving two cases unimproved. These results show conclusively that we can not depend on ocular treatment alone for the cure of chorea. I believe, however, that eye-strain here, as in epilepsy, is an accessory or secondary cause of much importance, and that every choreic person should be tested for defects and those found thoroughly corrected. It is possible that the rest-treatment to which I am so partial acts partly by relieving the patient of eye-strain, and what has been stated would also serve to explain why school-work is so injurious to choreic children and so often causes relapses. But the true pathological cause or condition of chorea, gentlemen, lies deeper than in ocular defects, or phimosis, or self-abuse, or cardiac disease. There is in all cases a fundamental, preliminary defect in cerebral power, often associated with anæmia; a weak brain (often small) supplied with thin blood by a weak heart are conditions (besides inherited neurotic tendencies) which I hold to be fundamental in chorea, and which you should study most carefully in each case. On a brain so conditioned exciting causes of various sorts act powerfully, and a truly rational treatment demands their discovery and removal.

(*c*) Is exercise good for choreic children? In the ordinary sense of the word, I would reply emphatically No. Many a time have I observed immediate improvement in a choreic child from stopping such exercises as tricycle riding, running games, etc., without enforcing strict rest, and before much arsenic had been taken. The question is different with respect to systematic gymnastics. This has been and is still recommended as a cure for chorea, but my experience with it has been unfortunate, perhaps for want of judicious instructors. Only this winter I cured a case of chorea of two years' duration (a chronic case) by partial rest (one hour in the forenoon and two hours in the afternoon) and arsenic, cod-liver oil, and cold sponging, in seven weeks, this period including a week's illness from influenza. When convalescence was well marked and only very slight jerks were visible occasionally, I sent the child to a special gymnasium in New York where the drill was personally directed by a lady physician, but in a week the child was much worse. Still, I am inclined to think that, during convalescence from chorea, the practice of a few gymnastic movements under a teacher's or parent's guidance, and with no one else present, may prove of advantage. The movements I have them do are (1) deep inspiratory acts with simultaneous outstretching of the arms to the fullest extent so as to expand the thorax thoroughly—from four to ten such inspirations are enough for one *séance ;* (2) forward and backward movements of the arms; (3) stooping forward so as to touch the toes with the finger-tips; (4) rising from a squatting posture. Every movement should be slowly done *with force* and *completely finished.* A *séance* of five minutes twice a day is long enough, and a few minutes of rest should follow. Very light wooden dumb-bells may be used, or weak rubber straps attached to the wall (a simple "parlor gymnasium") are not objectionable, but Indian clubs I do not allow, because they must be used with rapid and rather bewildering movements.

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* George T. Stevens, Functional Nervous Diseases, New York, 1887, p. 87 *et seq.*

* Journal of Nervous and Mental Diseases, New York, November, 1889.

† *Idem*, December, 1889; full histories of cases are there given.

(*d*) The prophylaxis of chorea after a first attack is a subject of much importance, as too many cases relapse year after year, usually after two or three months of school-work in winter, or after over-exertion during the summer vacation. Hygiene, including sufficient nutritious (animal and fatty) food, is here of prime importance, as it has been my experience that a period of anæmia and debility ("running down," as the popular phrase is) often precedes the reappearance of choreic jerks. If the child have defective eyes, they should be re-examined before the beginning of every school-year and necessary changes made in glasses; but, above all, the child should be made to wear the glasses (in spectacle-frames much better) constantly, or exactly as ordered by the oculist. With these and other precautions it is not necessary to withdraw a child from school (unless the school-room is seriously defective in light, ventilation, etc.) after a first attack of chorea; yet it is well to forbid such children making unusual exertions to compete for prizes, indulging in violent play, etc.

III. Migraine.—Writing in 1877,* I made a strong plea for the systematic and prolonged use of cannabis indica in this disease. I was then strongly impressed with the idea that, besides the (unknown) central functional lesion in this disease, conditions of mal-assimilation and lithæmia played an important part in the pathology of the attacks. It is a fact that a considerable number of the victims of migraine are gouty, and present from time to time deposits of oxalate of lime, uric acid, and positively excessive urates; and I still believe that this indication should be met by diet, exercise, and medicinal treatment.

But since the publication of that essay a new and most powerful light has been thrown upon the pathology of migraine by the researches of oculists and neurologists. Thomson and Weir Mitchell † had already called attention to the importance of ocular defects and consequent nervous strain in headaches (they did not specify migraine), and suggested that they be treated by glasses. These observers and many oculists since were not aware of the powerful eye-strain resulting from the ill-balanced action of the external ocular muscles, which probably is just as important a factor as errors of refraction. It is here that the profession owe a debt to Dr. Stevens,* of New York, for his methods of testing the ocular muscles and for the persistence with which he has urged treatment of eye-faults in migraine and other headaches. The proportion of subjects of migraine who have ocular defects is amazing; very nearly all have either errors of refraction or muscular insufficiency, or both combined. This was noticed before Stevens's name was known in connection with the subject, for in 1882 I received from Dr. G. C. Savage,† of Jackson, Tenn., a very courteous letter challenging me to furnish a case of migraine in a person with normal eyes. I have not yet met with one, though I have been told of two or three by oculists in whom I have confidence. Of course the statement as to the invariable concomitance of eye-faults with migraine presupposes that the patients have been examined *thoroughly—i. e.,* under the full effects of atropine for refractive errors, and by Stevens's method for muscular insufficiency. I regret to say that there are still oculists of good standing who examine the eyes of headache cases in the most careless way, ordering glasses without having used atropine, and ignoring the muscles altogether. This has happened under my observation in New York within six months. Better no glasses than to procure them (often at considerable expense) without a searching examination; headaches are aggravated, other distressing feelings are produced in the head, and the disgusted patient flings away his glasses and can only rarely be induced to submit to another trial of treatment in this direction.

The fact that subjects of migraine have defective eyes partly explains the remarkable transmission of the disease through several generations in one family, particularly in the female members, who are more apt to strain their eyes than males, because their needle and piano work requires very exact fixation and accommodation for long periods of time. Another argument in favor of the ocular origin of migraine is that other remarkable fact that in many persons of both sexes the attacks diminish and cease between the ages of forty and fifty years. It is at this period that the power of accommodation becomes exhausted and a large part of the unconscious strain which has been going on from early youth is removed. Still the gouty or lithæmic disposition is also hereditary, but perhaps not as extensively so as ocular defects.

With reference to the good effects of cannabis indica (also belladonna or atropine) when used systematically in the largest doses the patient can comfortably bear, I could in 1882 give no explanation; but now it seems to me that the *modus agendi* is pretty clear. The principle involved I have already referred to—viz.: that mydriatics (belladonna, atropine, cannabis indica, hyoscyamine, etc.) exert a sedative and even a paralyzing influence on the third cerebral nerve and its attached muscles (including the ciliary). Now, in many cases of headache, whether of the migraine type or not, there is an (usually) unconscious effort or strain in accommodation, expended chiefly upon the ciliary muscles and the internal recti. It is by this effort, costing the expenditure of so much nervous force or energy, that the ocular defect (hypermetropia, hypermetropic astigmatism, myopic astigmatism, or astigmatism; weakness of the interni or a combination of this with ocular defects) is overcome and corrected more or less successfully for longer or shorter periods of time. This theory of the genesis of headache explains its first appearance (as a rule) when the patient first begins to pursue studies requiring much reading or begins to apply herself more to needle-work (from eight to fifteen years of age); its remarkable diminution in frequency and its frequent cessation when the accommodative power is lost (between forty-two and fifty years of age); but also the more puzzling phenomenon of the late appearance (between twenty and thirty years of age) of a first paroxysm followed by others more or less frequently. In these cases of late headaches, the patient, being in good health, is able to expend a large amount of nerve force through the third nerve apparatus, and successfully corrects the ocular defect so as to render reading, writing, etc., fairly easy. But let this person have an acute illness (pneumonia, typhoid fever, lying-in, etc.), or be obliged to nurse a child, or lose vitality in other ways, or has to use the eyes excessively for a time—the nerve power falls to a minimum, the strain relatively becomes much greater, and headache or paræsthesiæ about the head appear. From very exact study of a number of cases of headache and of paræsthesiæ about the head (often falsely denominated cerebral hyperæmia), I feel sure that a healthy person may bear with ocular defects and the strain necessary to nearly overcome them until far along in adult life, or even until accommodation begins to fail, before the symptoms show themselves. It should also be borne in mind that these two groups of symptoms due to eye-strain may develop very rapidly—almost suddenly—in an adult. I have observed several cases in which the patients traced the onset of symptoms to one particular day, when something seemed to give way in the head, and thereafter they had never been quite free from pain, pressure, fullness, numbness, etc., in the head.

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* A contribution to the therapeutics of migraine, Opera Minora, p. 242; New York Medical Record, December 8, 1877. Cannabis indica was first recommended as a remedy (given in continued doses for months) for migraine by Dr. Greene in the Practitioner, vol. ix, p. 267, 1872.

† Headaches from Eye Strain. Am. Jour. of the Med. Sci., 1876, i, p. 363.

* Functional Nervous Diseases, New York, 1887.

† Shortly after this, Dr. Savage published an article entitled Headache caused by Eye-strain, in the Philadelphia Medical and Surgical Reporter, July, 1882.

I beg that you will excuse this digression, but I was anxious to have a chance to lay before you a theory of headaches, and especially of paræsthesiæ about the head, which I have long entertained. But do not forget in these cases the deeply rooted or hereditary fault in the central nervous system, and in some cases the influence of lithæmia, wrong diet, and inert habits.

To go back. It is in these cases of migraine and of non-typical headaches that the mydriatics do good, and they do good by reducing the accomodative effort and relieving the strain. Of course, by themselves they afford only partial or temporary relief; but, when combined with correction of the ocular defect by appropriate glasses and in some cases tenotomy, and, if a reduction in the use of the eyes can be secured, a cure results.

Allow me to add one word about a class of cases of paræsthesiæ about the head, in which the symptoms are most pronounced when the patient is on the street, or in a large room, or at the theatre and church; in other words, when his eyes should receive impressions from a distance, especially from moving objects (people, carriages, etc.), distinctly and easily upon homologous parts of both retinæ. In these cases, besides refractive faults, there is very often, if not invariably, weakness of the external recti, or the condition designated by Stevens as esophoria. Sometimes a pseudo-agoraphobia results also; the patient is afraid to go out, or into theatres and churches. If he perseveres, the head symptoms are intensified, and great general nervousness, even a hysteroid attack, is brought on. In these cases the mydriatics (given by the mouth) exert a most happy influence; and section of one or both of the internal recti may at once produce an apparent cure. I qualify the word, because the rapid healing of the divided muscle (or tendon) usually brings about a relapse and necessitates other operations. We do not yet feel sure that the operative treament of these cases affords more lasting relief than the use of prisms and of the appropriate internal remedies for long periods of time. This question of the relation between ocular defects and cephalic symptoms is one of the most interesting practical ones of the day, and the more skilled physicians engage in its study, the sooner shall we arrive at definite therapeutic rules which may be applied deductively to future cases, which form a by no means insignificant proportion of the chronic diseases we are called upon to treat.

Original Communications.

THE TIME-ELEMENT IN SAVING THE PERINÆUM.*

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A considerable delay in the passage of the head through the vulvar orifice is a factor of safety never emphasized and rarely mentioned. The great variety of methods of handling the perinæum which are recommended by the highest authority shows that no one of them is absolutely best. Their object is often stated to be the guidance of the head in the proper direction, as well as to prevent too rapid exit. But slow stretching seems to me the most important consideration. Two propositions may be stated:

1. *The more slowly and evenly the head is delivered, the less the chance of injury.*

2. *If twenty to thirty minutes are insured for the distension of the vulva, injury will rarely occur.*

Some rigid, œdematous, or wet-paper vulvas no care can save; some India-rubber perinæums no speed can tear; but in ordinary practice the rule is of working utility.

The *methods of delay* are two: with chloroform, and with restraint by manual pressure. Chloroform is given in the great majority of cases. It is the only absolute means of control during the "period of despair," as the French aptly dub the last minutes of expulsion. To order a patient not to strain is futile. Her reflexes sway her. Pain blunts reason. She gathers all her force to dash past this agony, and the perinæum is torn. Or, if she wearily gives up the struggle and the man with the forceps delivers her, his instrument is blamed for the injury which his haste produced. Manual restraint is efficient when the pains are moderate, and with chloroform and such restraint to delay the exit, and with expressio fœtus and the forceps to expedite it, any degree of speed can be effected. The description of manual methods is purposely avoided to keep the discussion to the question of time.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

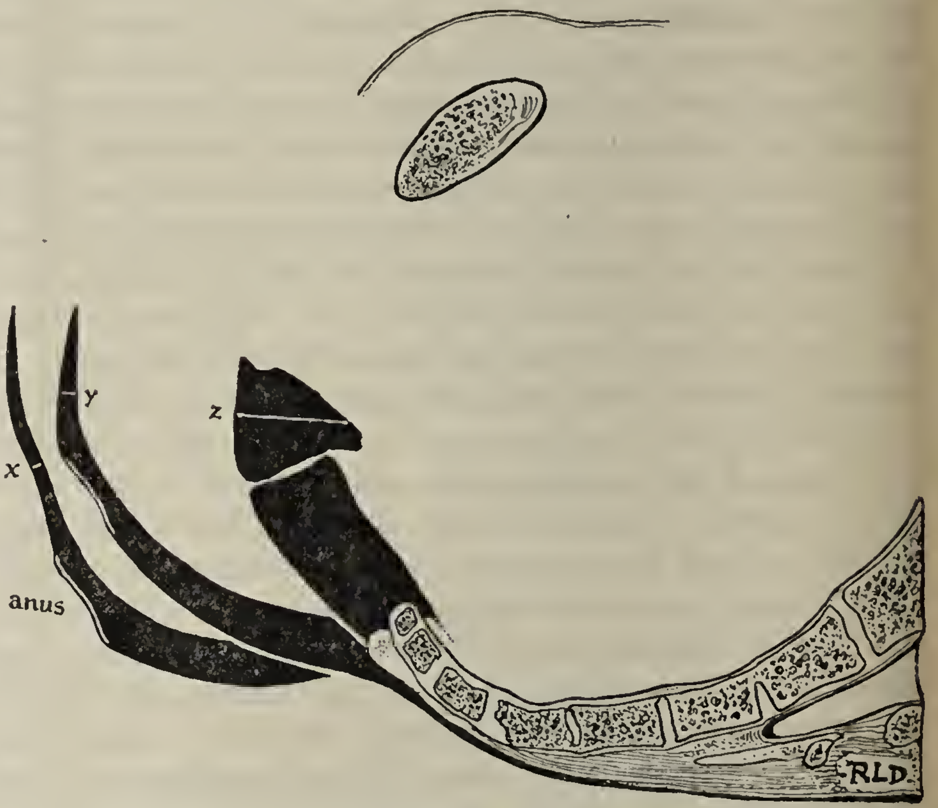
Experiments on the Cadaver.—Florinsky (quoted by Mekertschisutz, Archiv für Gyn., xxvi, 3) found that a muscle slowly stretched an inch and a half and held a weight of forty-five to fifty pounds. The same muscle taken from the other leg gave way under sudden strain with a weight of thirty to forty pounds, stretching only three quarters of an inch to an inch. With the skin the results are more striking: one piece withstood a gradual strain of seventy to eighty pounds, stretching four inches and a half to five inches; like pieces tore upon sudden loading with weights between forty-five and seventy pounds. Skin thickly underlaid with fat stretched four inches to five inches and a half, and tore under a strain of seventy to seventy-five pounds. Flabby skin from a lean subject stretched six inches and held up more than eighty pounds. Microscopical examination of the perineal structures of fat women showed fat between the muscular fibers, and fatty degeneration also. Adipose tissue is found in undue quantity in the perinæum in strong young women when the only other accumulation is in the abdominal wall and the buttocks. The skin of persons between eighteen and twenty was twice as yielding as that of individuals between thirty and thirty-five.

The order of giving way, according to the same observer, is: (1) adipose tissue, (2) fascia, (3) muscle, (4) skin.

Mucous membrane is less elastic than skin, and parts first.

When a double layer is distended, the inner surface gives way first. Here is my experiment: A broad rubber band is slipped over two parallel bars. The surfaces in contact are lubricated. The seam in the rubber is placed outside one bar. A croquet ball is pressed down on the doubled band until the rubber snaps. The inner layer next the ball always gives way—whether the material be rubber, cloth, muslin, or paper. I presume the compression of the inner layer determines the rupture.

The extent of the *thinning of the pelvic floor* is an important fact bearing on the speed question. I have measured it by passing in a thin lead plate between the head and the pelvic floor, and then driving a flamed needle through the tissues wherever I wanted to ascertain their thickness. The profile or outer line in this figure is accurate, and the only one except Varnier's that is so, for it has been drawn from my series of tracings of the projecting pelvic floor during labor. A lead strip is passed from the sacrum over the symphysis and carefully fitted, then traced. The cut shows the results in a typical case. The perineal body usually averages an inch and a quarter to an inch and a half in thickness after involution. When distended fully by the head, it is a little more than a sixteenth of an inch thick (0·2 ctm.).



The thinning of the pelvic floor during delivery (from life). At X it measures $\frac{3}{32}$ inch = 0·2 ctm.; at Y it measures $\frac{5}{32}$ inch = 0·4 ctm; at Z it measures $\frac{32}{32}$ inch = 2·5 ctm.

One hundred and forty-seven cases were timed. They are from private practice and hospital records. A large number of the patients were delivered by internes. The forceps-case reports are relatively numerous, because the time could be kept accurately and the head extracted very gradually. A thorough examination by touch and sight insures the statement as to the result. Superficial lesions, to the skin or mucous membrane only, are not credited as ruptures. The table contains several subcutaneous and submucous injuries. I draw attention to the following salient facts:

1. Primiparæ; slow delivery of head; lacerations, fifteen per cent. (the usually quoted ratio is twenty-one to thirty-four and a half per cent.).

2. Primiparæ; thirty-three slow forceps deliveries; lacerations, twenty-four per cent. (many bad cases).

3. Multiparæ; slow delivery; lacerations, six per cent.

4. Multiparæ; nine slow forceps deliveries; lacerations, none.

5. Multiparæ; rapid delivery; lacerations, thirty-three per cent.

6. Primiparæ; rapid delivery; lacerations, seventy-seven per cent.

7. Ten rapid extractions of head; lacerations, one hundred per cent. (mostly breech cases).

8. Forty-nine forceps operations; lacerations, twenty per cent.

9. Only one rupture into rectum.

TABLE I.

Primiparæ: Relation of Injuries to Time of Distension of Vulva.

No.	Age.	Character of labor.	Forceps (or other operation).	Minutes in distension of vulva.	Injury.
1	25	Severe.	High operation.	30	To fourchette only.
2	18	Infantile introitus	High operation.	25	None.
3	22	...	...	20	None.
4	16	...	...	15	To fourchette only.
5	33	...	...	25	To hymen only.
6	28	...	...	23	None.
7	23	Severe; breech; justo-minor pelvis.	Rapid extraction; forceps on head; small vulva.	5	Down to sphincter.
8	26	...	...	60	None.
9	18	...	...	5 ?	Half way.
10	18	Puerp. convuls'ns	High operation.	15	To fourchette.
11	19	Small vulva.	...	20	None.
12	23	...	Low operation.	20	None.
13	23	...	...	35	None.
14	18	Severe.	...	25	None.
15	25	Contracted inlet; 3½ in.	High operation.	20	One third of perinæum.
16	19	Uræmic convuls.	High operation.	23	Same.
17	18	...	...	15	None.
18	22	Persistent occipito-post.; advanc'd ossification; fœtal heart slow.	Low operation; haste.	5	Through sphincter.
19	27	Thick levator.	...	45	One third of perinæum and up vaginal wall.
20	22	...	Low operation.	90	Half way.
21	23	...	...	20	Down to sphincter.
22	22	...	...	30	None.
23	20	...	...	60	Vaginal mucous membrane.
24	28	Rigid perinæum.	Low operation.	20	Half way.
25	30	...	...	20	None.
26	28	Eclampsia.	High operation.	15	None.
27	33	Tubercular.	...	6	Down to sphincter.
28	30	Fat and flabby patient.	Low operation.	15	Down to sphincter.
29	21	Old vulvitis.	Low operation.	25	To hymen only.
30	35	...	...	28	None.
31	32	...	...	30	None.
32	22	Male pelvis.	Low operation.	22	Skin only.
33	31	Rigid perinæum.	...	28	None.
34	21	...	Low operation.	20	None.
35	19	Small vulva.	Low operation.	15	None.
36	23	...	Low operation.	25	None.
37	21	...	Low operation.	22	Skin laterally.
38	30	Hydrocephalus.	High operation.	20	Half way.
39	20	...	...	32	None.
40	40	Rigid perinæum.	...	28	Half way.
41	33	...	...	18	Down to sphincter.
42	27	...	...	27	Hymen only.
43	28	...	High operation.	45	Hymen only.
44	22	...	Low operation.	25	None.
45	28	...	Low operation.	30	Fourchette only.
46	24	...	...	18	Skin laterally.
47	26	Contracted pelvis, 3½ c'njugate brim.	High operation.	25 ?	Down to sphincter.
48	25	...	...	15	None.
49	35	Rotten perinæum.	Low operation.	20	Half way.
50	22	...	Low operation.	15	One third torn.
51	41	Levator 1¼ in. thick; rigid perinæum.	Low operation.	30	Half way; also up vaginal wall.
52	22	...	...	45	Slight.
53	24	...	...	15	Slight.
54	25	...	...	20	None.
55	19	...	...	15	Down to sphincter.
56	20	...	...	15	None.
57	22	...	...	15	None.
58	22	...	...	20	Muscle, but not skin.
59	18	...	Low operation.	11	Half way.
60	20	...	...	20	None.
61	18	...	...	20	Through mucous membrane.
62	28	...	...	18	Slight.
63	23	...	Forceps.	25	Through mucous membrane.
64	21	...	High operation.	37	None.
65	24	Convulsions.	...	8	Slight.
66	20	...	...	15	Down to sphincter.
67	18	Precipitate.	...	2	Half way.
68	30	...	Low operation.	20	Slight.
69	24	...	Low operation.	30	None.
70	23	...	...	90	Fourchette only.
71	22	...	...	35	None.
72	22	...	...	62	Hymen only.
73	25	Rigid perinæum.	Low operation.	46	Slight.
74	...	...	...	26	None.
75	20	...	...	25	None.
76	33	...	...	35	None.
77	23	...	...	22	Fourchette only.
78	18	Rigid perinæum.	...	25	None.
79	22	...	...	18	None.
80	24	Rigid perinæum.	...	22	Half way.
81	21	...	High operation.	35	None.
82	23	Precipitate.	...	3 ?	Fourchette only.
83	17	Breech.	...	2	Down to sphincter.
84	26	Contracted inlet, 3¾ in.	High operation, Tarnier.	20	Hymen only.
85	20	...	Low operation.	25	Mucous membrane only.
86	26	...	Low operation.	19	Mucous membrane only.
87	21	...	...	20	Slight.
88	26	...	Low operation.	15	Down to sphincter.
89	20	...	...	5	One third.
90	31	...	...	35	None.
91	25	...	Low operation.	30	Slight.
92	28	...	...	40	Superficial.
93	19	...	...	15	Superficial.
94	19	...	...	18	Superficial.
95	28	...	...	12	None.
96	27	...	...	20	Skin only.
97	26	...	...	20	None.
98	17	...	...	15	Vaginal mucous membrane.
99	23	...	...	30	None.
100	25	...	...	25	None.
101	25	...	Low operation.	40	None.
102	...	...	Low operation.	30	None.
103	...	...	High operation.	37	None.
104	17	...	...	35	None.
105	28	...	...	25	None.
106	...	...	...	25	Superficial.
107	18	...	...	26	None.
108	27	...	...	50	Half way.
109	21	...	...	10	None.
110	20	...	...	50	Fourchette only.
111	24	Precipitate.	...	5 ?	None.
112	20	...	Low operation.	20	To sphincter.
113	25	Breech.	...	4	One third.

TABLE II.

Multiparæ: Relation between Injuries and Time of Distension of Vulva.

No.	Age.	Previous injury.		Character of labor; operation.	Minutes in distension of vulva.	Injury.
		Para.				
1	22	2	None.	...	15	None.
2	35	4	Considerable.	High forceps.	20	None.
3	33	8	None.	...	2	None.
4	26	2	Slight.	...	10	None.
5	18	2	None.	...	10	None.
6	34	2	Subcut'neous to muscle.	...	20	Superficial.
7	29	3	Slight.	Low forceps.	25	Superficial.
8	24	3		...	4	Half way.
9	38	2		High forceps; ossified head.	30	Slight.
10	26	2	Moderate.	Low forceps; occipito-posterior.	30	None.
11	26	4	To sphincter.	...	5	Half way.
12	24	2		Version.	3	Down to sphincter.

Table II—(*Concluded*).

No.	Age.	Previous injury.		Character of labor; operation.	Minutes in distension of vulva.	Injury.
		Para.				
13	27	3		Low forceps.	25	None.
14	34	4	Old scar.	....	30	Half way.
15	30	2	None.	....	25	None.
16	30	2	Slight.	Contracted pelvis; low forceps.	30	None.
17	28	2	Slight.	....	25	None.
18	26	2		Forceps.	25	Slight.
19	30	3		Version, forceps.	4	Down to sphincter.
20	30	2		Breech.	5	None.
21	39	8	Extensive.	....	10	None.
22	29	2	Moderate.	....	20	None.
23	32	2	None.	Low forceps.	12	None.
24	20	2	None.	....	10	None.
25	27	2	None.	High forceps.	20	Mucous membrane only.
26	29	6	Slight.	....	4	None.
27	39	3	Slight.	....	20	Mucous membrane only.
28	23	2	Old scar.	....	15	Emmet's split.
29	30	6	Slight.	....	14	Fourchette only.
30	21	2	None.	....	3	None.
31	39	4	Present.	....	2	Mucous membrane only.
32	...	2		....	15	None.
33	30	4	Considerable.	Version.	2	None.
34	22	2	Present.	....	60	None.

THE THOMAS HIP SPLINT.*

By JOHN RIDLON, M. D.

In its simplest form, Thomas's hip splint consists of a stem and three cross-bands (other bands and another stem may be added to meet certain indications). These should be of first-class wrought iron, which is very tenacious and easily modeled; steel will not do, being too elastic. The main stem should be long enough to reach from the lower angle of the scapula to the lower third of the leg. According to the age and weight of the patient, it should be from three quarters of an inch to an inch and a quarter wide and from three sixteenths to a quarter of an inch thick. A bend is made at a point opposite the sacrum and another opposite the gluteo-femoral crease, dividing it into three portions: a straight body portion, a buttock portion curved forward, and a straight leg portion, following a line parallel but somewhat anterior to the line followed by the body portion. The stouter the patient the less the buttock bend, and consequently the less the distance between the parallel lines followed by the body and leg portions.

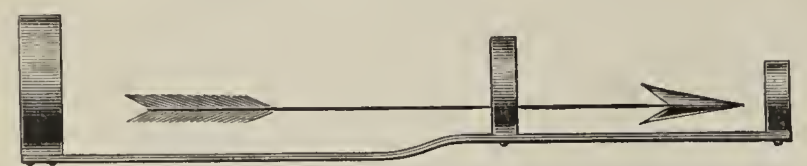


Fig. 1.—Diagrammatic outline of the splint, showing the parallelism between the body portion and the leg portion.

The upper, or thoracic, cross-band should be from an inch to an inch and a half wide and from one sixteenth to two sixteenths of an inch thick, and in length five sixths of the full circumference of the chest. It is joined to the upper end of the main stem by a rivet and washer (Thomas), or by two rivets, as I prefer, at such a point that three fifths will be to the inner and two fifths to the outer side of the main stem. In each end of this upper cross-band a hole large enough to take a bandage is made. The second, or thigh, cross-band is five sixths of the full circumference of the thigh, and is joined to the main stem just below the lower buttock bend by a rivet, so that three fifths will be to the inner and two fifths to the outer side of the main stem. The lower cross-band is five sixths of the circumference of the leg at the junction of the middle and lower thirds, and is joined to the stem in the same manner as the thigh-band. The thigh-band and the calf-band are of the same width as the main stem and half its thickness.

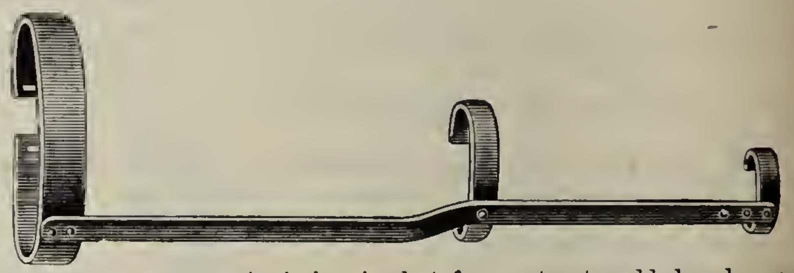


Fig. 2.—Showing the splint in its simplest form not yet padded and covered. Note the two holes at the lower end for attaching the "nurse."

At two and four inches from the lower end of the main stem, holes are made to which may be screwed or bolted the "nurse." This is a strip of iron of the same width and thickness as the stem, and at least one third its length. It has two holes at one end for attaching it to the stem, and the other end is turned up into a scroll or loop. It may be given a double bend backward so as to pass free of the heel.

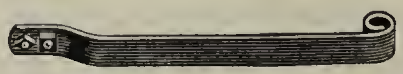


Fig. 3.—The "nurse." To be screwed or bolted to the lower end of the splint.

The object of this "nurse" is to render it impossible for the patient to walk while it is desired to confine him to bed.

Just above the buttock bend a twist is taken in the longitudinal axis of the main stem so that the body portion will lie to the outer side of the posterior iliac spine, while the leg portion passes down directly posterior to the middle line of the leg. The cross-bands are now bent approximately to the desired shape; the inner surface of bands and stem are lined with felt, and the whole covered with basil leather put on damp, so that when it has shrunken it will not slip on the iron. To overcome flexion, the stem is bent at a point opposite the sacrum so as to fit the deformity, and then gradually straightened. To overcome adduction, an extra wing is attached to the main stem midway between

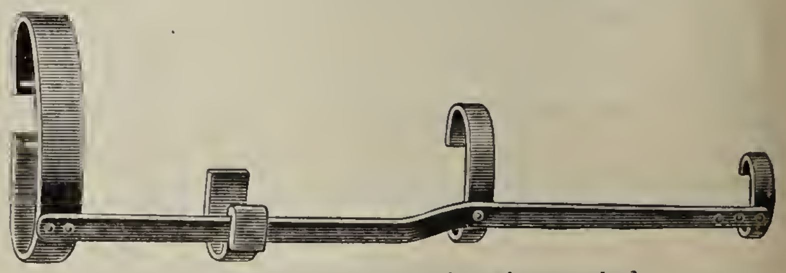


Fig. 4.—Splint with adduction wing attached.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

the chest and thigh bands and carried around the flank on the affected side. To overcome abduction, the wing is attached at the same point on the stem, but carried around to the opposite side. These extra wings may be riveted to the stem or made removable. When it is desired to allow motion at the knee joint, the stem is cut off and the lower cross-band attached at that point. For the treatment of disease at both hip joints the splint is made double by attaching two stems, with their accompanying thigh and calf bands, to the single chest-band and joining their lower ends by a bar for convenience in lifting and moving the patient.

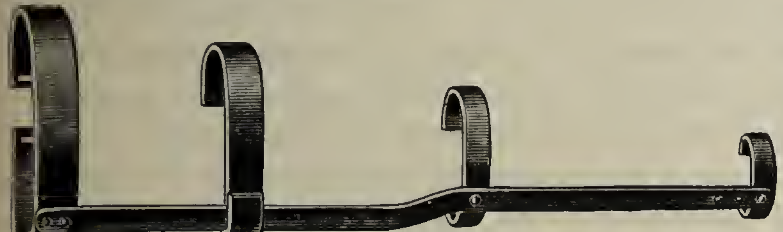

Fig. 5.—Splint with abduction wing attached.

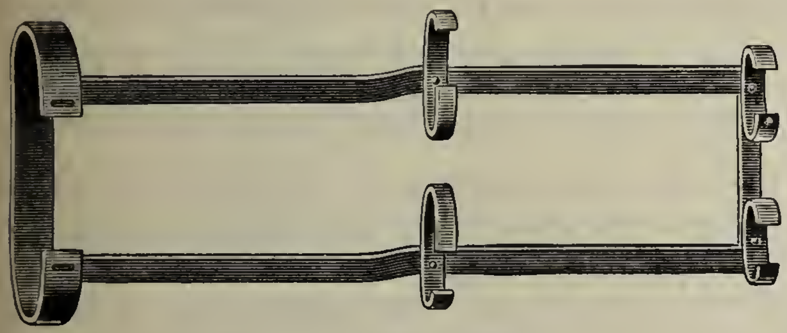

Fig. 6.—The double hip splint.

The splint of the ordinary form is applied by opening out somewhat the wings of the cross-bands on the inner side, or the side opposite to that upon which the disease is located, and gently slipping them under the patient as he lies on his back in bed. The wings that were opened out are now drawn closely to the side of the chest, thigh, and leg, and should usually be somewhat closer on this side than on the other to counteract the tendency of the splint to shift around to the side of the patient. A pair of wrenches, modified from Moore's triple-action ratchet drill and made by the Lowell Wrench Company, of Worcester, Mass., will be found most convenient for drawing in these bands and modeling the splint to the desired shape. A strip of broad bandage is now looped about the stem at its junction with the chest-band, twisted a few turns so that the ends will separate well up on the back, one end of the bandage is then carried over each shoulder, passed through the hole at the end of the chest-band, tied fast, passed across the chest to the opposite end of the chest-band, and again tied fast. The knots may be further secured by passing through each a strong pin, twisting it, and nipping off the point. Thus fastened, the splint can not be removed without the knowledge of the surgeon. The limb may be fastened to the splint by a roller bandage from the lower end to the thigh-band, or by a strap of basil leather from two to three inches wide passed across the front of the thigh close down upon the upper border of the patella, and thence carried backward and downward and pinned to the cover at the back. This last arrangement seems to be very satisfactory when the patient is up and about, as any weight of the splint not borne by the shoulder straps is thus brought to bear directly upon the quadriceps femoris muscle.

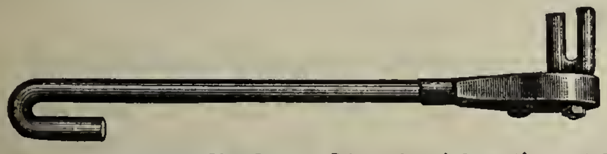

Fig. 7.—Thomas's wrench, modified from Moore's triple-action ratchet drill and made by the Lowell Wrench Co., of Worcester, Mass. The hook at the end of the handle is used for twisting the stem of the splint in its longitudinal axis. A pair of wrenches costs twenty-five dollars.

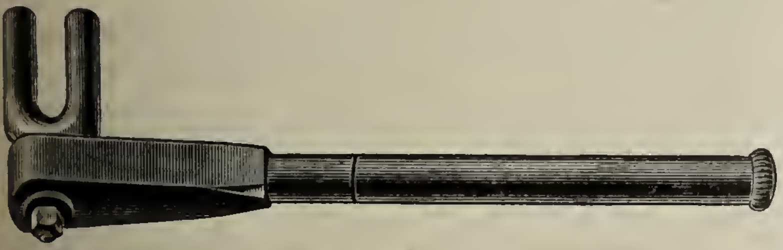

Fig. 8.—The same wrench as the above without the hook at the end of the handle. A pair of ten-inch wrenches costs nine dollars. The small cost is owing to the fact that special castings do not have to be made as in the other wrench.

The splint being now applied, and the deformity, if any exist, having been rapidly overcome, there are two cardinal rules for our guidance in the management of the case: The patient is to be still kept in the recumbent position, in bed, on a lounge, or on a carriage arranged for the purpose to enable him to be out of doors, until all involuntary muscular spasm has subsided and until all tumefaction about the joint has disappeared. Then, and not till then, is he allowed to walk. The other rule is: There shall be no motion, voluntary or passive, in the joint so long as it is suspected that any disease exists. The surgeon must not at every visit remove the splint, bend and extend, push and pull, twist and turn the limb on the pelvis in order to "test the joint," and inform the parents that "the case is doing very well." It must be recognized that the most perfect immobilization possible must obtain, and that motion aggravates and prolongs the disease, that it promotes suppuration and bone destruction, and favors ankylosis. The surgeon who would use Thomas's hip splint with success and satisfaction to himself must adhere absolutely to these two rules.

When pain has been absent for some time, and when the involuntary muscular spasm has wholly subsided, a high patten (four to six inches) may be attached to the shoe on the unaffected side, and, with the help of crutches, the patient may be permitted to walk about. Any return of pain or of involuntary muscular spasm should be considered an indication for returning the patient to the recumbent position. When the patient has been allowed to go about for some months without any return of pain and muscular spasm, and when "all the tissues about the joint are well atrophied," the patten may be removed and the crutches dispensed with. Again, after some months, if there be no return of symptoms of disease, the splint may be cut off at the knee, and the lower cross-band attached at that point so as to allow motion at the knee joint. The splint is worn

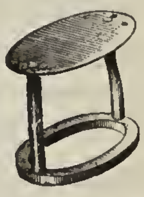

Fig. 9.—The patten for the well side when the child walks.

thus for some months longer, when, if there still be no evidence of disease, it is removed altogether. Careful notes must now be made of the position of the femur with relation to the pelvis, and also of the degree of motion at the joint; for any diminution in the range of motion, or any return of flexion or adduction when no motion exists, is an indication that a relapse has occurred or that a cure had not been effected when treatment was discontinued, and that the splint should again be applied.

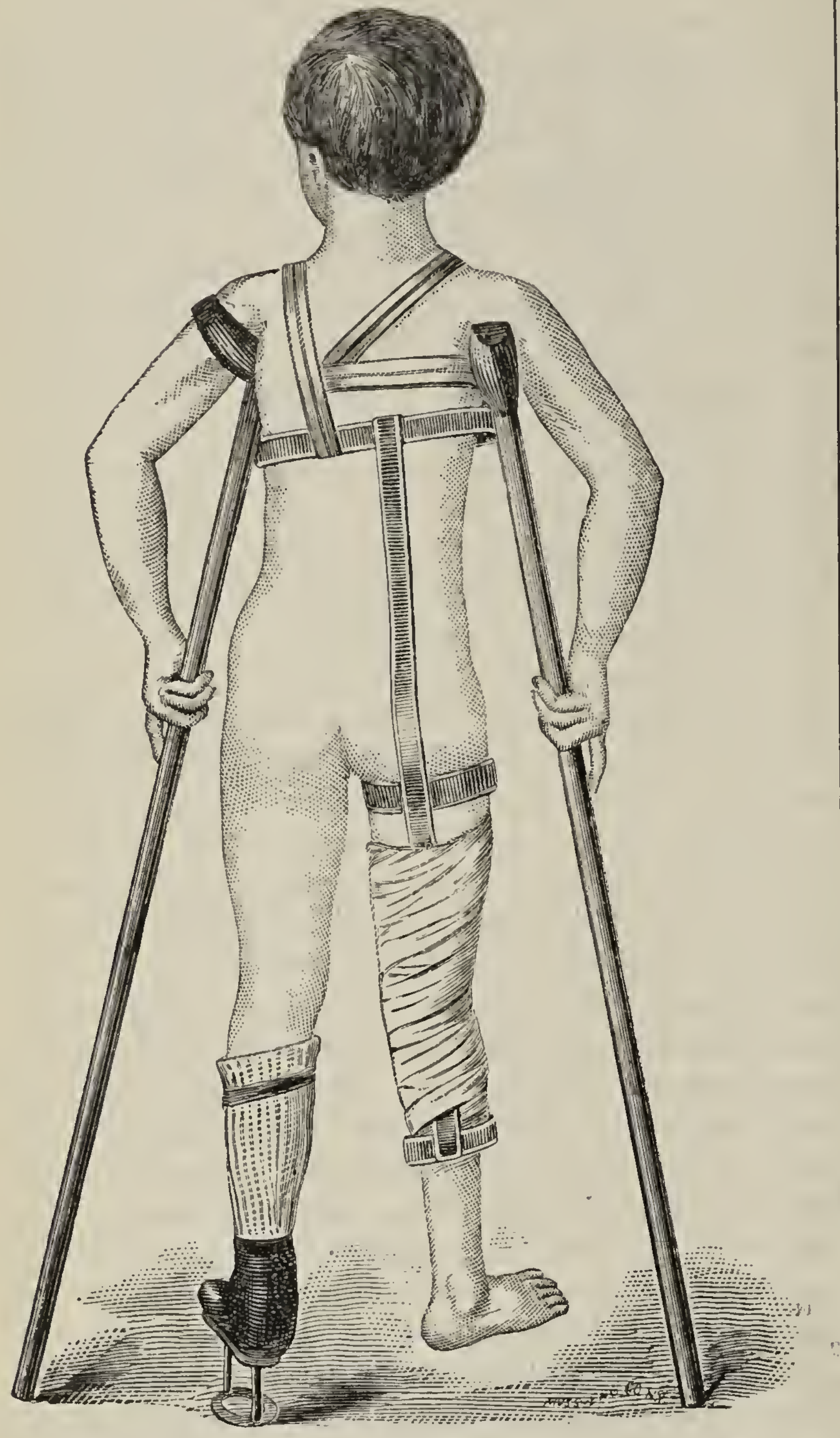

Fig. 10.—Thomas's splint applied, with patten and crutches (after Robert Jones).

It is alleged for the splint that it costs little, and is within reach of the very poor; that it is simple of construction, and can be made by any blacksmith and saddler; that it is easy of application, requiring no complicated arrangement of adhesive plaster, straps, and buckles; that it is not readily disarranged or broken by the patient, and therefore costs nothing for repairs. Being a posterior splint, it gives better fixation than is possible with a lateral or an anterior splint; and, inasmuch as the limb tends from muscular spasm to pass into the position of flexion, this splint acting posteriorly gives a fixation that amounts practically to absolute immobilization so long as the involuntary spasm of the flexor muscles continues. In order to control movement at the joint it is necessary to prevent voluntary motion in the lumbar spine, from which the psoas muscle arises, and the knee joint, below which the quadriceps femoris and ham-string muscles terminate. This the splint does; and the fixation which it gives allays the pain and subdues the involuntary muscular spasm more quickly and surely than any splint that does not aim to prevent voluntary motion in the lumbar spine, or in the knee joint, or in both. It rapidly reduces flexion, abduction, and adduction, and effects a cure without other deformity than the shortening actually due to arrested growth and to the destruction of bone resulting from the disease. When once cured, no after-treatment is necessary to overcome flexion and adduction, or to support a knee joint rendered useless by prolonged traction.

337 West Fifty-seventh Street, New York.

COCILLAÑA AND ITS CLINICAL USES.*

By L. HARRISON METTLER, A. M., M. D.,

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Ignorance and indifference are sometimes very adroitly concealed by the screen of a popular adage, and frequently the more popular the adage the greater the amount of ignorance it is made to cover. For instance, what can be more senseless than the common saying that "there is nothing new under the sun"? Besides the absolute falsity of such a statement, if it were lived up to, all advance in science, art, and human knowledge would be brought to a complete standstill. And yet we occasionally meet medical men who not only adopt such a principle of action for themselves, but are inclined to ridicule and smile at those who are enthusiastic and progressive enough to endeavor to learn of things that are newer and perhaps better than those which their forefathers possessed.

When we were about beginning the study of cocillaña, a medical friend asked in somewhat of a mocking tone if it were better than any other of the many drugs which we already possessed of the same class—the so-called expectorants. We replied that we had never yet known of any two things being precisely alike in nature, and, as the present product was still entirely unfamiliar to us, we felt justified in giving it a trial at least, and afterward deciding more positively as to its special merits.

Cocillaña, scientifically named *Sycacarpus Rusbyi* by Professor Britton, of Columbia College, New York, is a species of tree, about twelve metres in height, found growing along the sandy water-courses of Bolivia, South America, and first discovered there by Dr. H. H. Rusby in May, 1886. Its appearance when first seen seemed to indicate that it presented its flowers and fruits in all stages of development during a large part of the year. At first it was attributed to the natural order *Anacardiaceæ*, but pharmacologically it seems to belong to the *Meliaceæ*, by reason of its strongly ipecac-like properties which in some respects are almost identical. For medicinal purposes the bark is employed, the odor of which is slight but peculiar and the taste unpleasant (not bitter) and slightly nauseous. Professor Schrenk,* who has examined the bark both chemically and microscopically, finds, among other peculiar elements in its structure, certain cells containing large monoclinic crystals of oxalate of calcium, and many of the elongated parenchyma cells of the liber almost entirely filled with a yellowish-white, amorphous, sometimes slightly granular substance. After a careful chemical examination of the latter substance, he suggests that it might be considered a kind of latex related to the resinous secretions furnishing gutta-percha and caoutchouc. It is possible that some active principle is contained in this latex analogous to opium, euphorbium, jalap, etc.

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* Read before the Northern Medical Association of Philadelphia, January 10, 1890.

The physiological properties of cocillaña bear a close resemblance to those of ipecac, but they are yet sufficiently distinct to classify the drug by itself. By the natives of its own habitat it is employed almost entirely as an emetic, a class of drugs always held in high esteem by barbarians who are in the habit of gorging themselves with food when suddenly blessed with an abundant supply after a long period of semi-starvation. As illustrative of native posological knowledge, the dose that is considered safe is a decoction made from "a piece of bark two inches square."

Dr. Rusby reported in the Therapeutic Gazette for August, 1888, three experiments with the administration of the crude drug, all of which gave quite similar and uniform physiological results. A quantity of the bark was partially dried in the sun and roughly powdered in a mortar and then prescribed in its crude state to three individuals in doses of twenty, thirty, and fifty grains, respectively. The first and most prominent effect was upon the alimentary tract. Vomiting was specially characteristic, varying only in degree with the size of the dose. Nausea accompanied the vomiting, and, between the two, large quantities of mucus were raised. There was a strong metallic taste corresponding exactly with the degree of nausea. A profuse expectoration of mucus occurred, and, as the effects began to subside, the throat became very dry. There were also considerable sneezing and a discharge from the nasal mucous membrane. The bowels were somewhat relaxed, although the cathartic action of the drug was not particularly pronounced. A slight tendency to perspiration was noticeable, with some dizziness, but no headache. In fine, the special effects were manifested through the mucous membranes and by a general feeling of lassitude and nausea. In from five to six hours the activity of the drug seemed to have ceased.

It will thus be seen that cocillaña or its active principle resembles in the main emetine, its action being manifested pre-eminently at its point of excretion—namely, the mucous membrane of the respiratory tract. The vessels of the glands of these surfaces undergo excessive stimulation, after which perfect quiescence follows in the course of a few hours.

There is no class of remedies more commonly used and more extensively abused than the so-called expectorants. Cough is not only the first indication for the employment of an expectorant, but it is also Nature's great expectorant. Acting upon this knowledge, every druggist manufactures and retails his own particular "cough mixture." There is not a household that is not supplied with its venerable time-worn recipe, handed down from generation to generation, which any good housewife can prepare and which is considered the veritable sure-cure for all the coughs and colds of the family. Neighbors are condescendingly informed of its marvelous virtues, and soon the little cough mixture becomes common property. Not only is this all wrong and liable to lead to the most disastrous consequences, but the wrong is not a little encouraged by physicians themselves, who, as soon as a patient makes his appearance with a cough, begin by ordering some combination of the hundred or more expectorants found in the National Dispensatory.

It is true that a cough is Nature's expectorant, and that when an expectorant is needed it is generally indicated by a cough, but it is most emphatically not true that all coughs require expectorants. When we remember how frequently cough may be asthmatic in origin or dependent upon some nervous derangement, an engorged liver, forms of gastric catarrh, besides such irritative factors as tumors, hypertrophies of the upper air-passages, enlargements of the uvula, and the impaction of foreign bodies, we can readily appreciate how earnestly the common habit of taking cough mixtures for all coughs should be deprecated—nay, more, how such a habit may possibly lead to permanent injury and even fatal results. Happily, in these days the use of expectorants is becoming more and more discarded, and the time-worn cough mixtures are being relegated to pharmacists and ancient grandams who are more fond of giving cheap advice than they are of storing their minds with a few grains of common medical sense. There are, however, certain conditions of the respiratory mucous membranes, particularly in the more chronic cases associated with general debility, in which a superabundance of mucus is secreted and not easily expectorated, either by reason of the weakness of the patient or the thick, tenacious character of the expectoration, which do call for the use of this class of remedies. Expectorants may therefore be divided into the active and sedative, or the stimulant and depressant. In all probability there is no such thing as a true expectorant or drug that exerts all its effects solely and entirely upon the respiratory mucous membrane, for most of them are merely eliminated in part through these membranes, and in the process of elimination so liquefy and soften the tenacious mucus clinging to the walls of the pulmonary air-passages, or excite the activity of those same structures, as to cause them to act more vigorously in throwing off this discharge. Among the first class we have the best examples in the ammonia salts, and among the latter in senega, squills, ammoniacum, asafœtida, etc. In ipecac and cocillaña, which are more particularly systemic emetics and nauseants, we have agents that cause a direct increase in the secretion of the broncho-pulmonary mucous membrane; and thus in a sense they are expectorants. They increase by local stimulation the amount of the mucus rather than cause any liquefaction of the same or irritative peristaltic function of the air-passages. This is an important distinction to note, for clinical experience indicates that when the cough is dry and harsh in character and the expectoration scanty or entirely absent, either ipecac or cocillaña may be used to advantage. If the cough is dry and harsh in character and there are particles of thick, tenacious mucus now and then raised, the ammonia salts will be better, though some benefit will be obtained by the use of ipecac or cocillaña. In that class of cases where there is an overproduction either of mucus or pus with inability on the part of the patient by reason of general weakness, cocillaña is contra-indicated; hence we find by clinical experience that it is not to be recommended in cases of advanced phthisis. Here the cough will be modified possibly, but the increased secretion will counterbalance all the other apparent benefits that seem to accrue at first from the use of this new drug.

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* Druggists' Bulletin, August, 1888, p. 222.

By the kindness of Parke, Davis, & Co., who have expended much time and money in the scientific investigation of cocillaña, we have been enabled to give this new applicant for professional favor a fair clinical test. In this investigation we have been aided by Dr. J. R. Waln, assistant physician to the medical clinic and dispensary of the Medico-chirurgical Hospital. We have used it in our private practice also, but at present will only report three or four characteristic cases out of the fifteen or more in which it was tested at the hospital, and which contain representatives of nearly all forms of pulmonary and bronchial troubles in which expectorants seemed to be indicated. We will select the cases merely to illustrate the principles which we have already announced that should guide us in the use of cocillaña.

Case I.—A. R., aged twenty-five, a resident of Camden and a baker by occupation. Three years ago he began to be troubled with a cough which followed a severe cold and which now comes and goes but is never entirely absent. He suddenly became worse about a month ago, with slight fever and severe paroxysms of coughing. At present the cough is of a dry, hacking character, giving rise to a scanty, thick, gummy expectoration which appears mostly in the mornings. There are no night-sweats; the bowels are regular; appetite is good and sleep is undisturbed. He is losing flesh. There is a distressing sensation of weight about the heart and generally over the region of the lungs. There is no family history of phthisis. The patient indulges freely in tobacco, as is also shown by the action of the heart. Physical examination revealed absence of all râles, with labored breathing, slightly increased fremitus, and somewhat impaired resonance, with slight dullness scattered over the entire pulmonary area. He was ordered to take a tablespoonful of cod-liver oil three times a day and ten drops of the fluid extract of cocillaña every four hours. A week later he reported that the cough had greatly diminished, that the expectoration was easier, and that he only coughed now when excited.

These cases of so-called pneumonic phthisis—a variety of lung trouble to which bakers, blacksmiths, and persons engaged in occupations in which they are apt to become regularly overheated and chilled are liable—need chiefly hygienic and tonic treatment; but so long as there is a dry, hacking cough, usually kept up by the presence of the thick, dry mucus in the tubes, a mild expectorant is indicated and usually affords decided relief. We have had such patients do admirably upon cocillaña as an expectorant and a tonic containing about a thirtieth of a grain of the bichloride of mercury and two or three grains of potassium iodide.

Case II.—L. C., aged forty-five, single, Irish girl, came to us on October 17th with a history of a "cold" followed by an irritating violent cough for two weeks, with scanty or no expectoration. She suffered from flatulent dyspepsia and constipation. Examination revealed little that was abnormal with the lungs. There was no fever. A laxative pill was ordered and ten drops of the fluid extract of cocillaña every four hours. Two days later the patient reported that the cough was still bad, but that it seemed looser and the expectoration freer. The same treatment was continued. Three days later she reported that she felt generally much better, that the cough had diminished, the expectoration was looser, and that she was now able to sleep at night. The same dose of cocillaña was ordered every three hours. On November 11th the patient was again exposed to cold, so that the cough became worse and the expectoration scanty. The cocillaña was ordered, as before, every three hours. Two weeks later patient reported that she was almost entirely well.

This case of acute followed by subacute bronchitis illustrates well the time at which the most favorable results may be expected from the use of cocillaña. During the acute stage, while the expectorant action was more or less manifest, the general effect was rather irritating and entirely negative in its results. As soon, however, as the inflammation began to be subacute and the mucus began to be poured out, the cocillaña favored the process, thus relieving the engorged tissues and membranes and so hastening the cure. Of course no expectorant should ever be employed during the acute stage of an inflammation, and in this respect cocillaña is like its congeners.

A further illustration is a case which was communicated to me by Dr. George W. Bowen, of this city. I quote his own words:

"Mrs. P. called me to prescribe for a 'commencing cold.' I found her with the ordinary prodromes of such a trouble—viz., injected conjunctivæ, watery discharge from the nose, throat slightly sore, and a little cough without expectoration. Began at 7 P. M. giving fifteen drops tinct. cocillaña concent. every two hours, requesting that it be kept up through the night. The next day at 11 A. M. I found nasal and bronchial mucous membranes discharging quite profusely. I stopped the remedy to give liq. morphinæ and syr. tolutan., āā f ℥ ij, one teaspoonful every one or two hours. The cure was complete in forty-eight hours."

Our own experience with the concentrated tincture has not been as gratifying as with the fluid extract, and in the above case the favorable termination seems to us to have been caused as much by the second prescription as by the cocillaña.

Case III.—P. D., aged thirty-six, had a history of a severe "cold" contracted two weeks previously, leaving him a dry, hacking cough, with little or no expectoration. There were no marked physical signs. Drachm doses of the concentrated tincture of cocillaña every three hours were ordered. Several days later patient reported that there was no change in regard to the cough and expectoration. The treatment was continued for over a week without any improvement in the patient's condition. Medicine was then discontinued.

Case IV. — Hannah B., aged sixty-seven, took a heavy "cold" about a month ago, which left her a violent cough, with a profuse, yellowish expectoration. This was worse in the morning. Patient said she was losing flesh and had no appetite. Physical examination indicated somewhat labored breathing but no râles. Ten drops of the fluid extract of cocillaña every two hours were ordered. Three days later the patient did not cough so much and the expectoration was looser. Great weakness and absence of all appetite were chiefly complained of. About a week later the cough had entirely ceased.

Case V.—G. W. T., aged fifty-one. History of a severe "cold" contracted after exposure six months ago. Coughed considerably, raising with difficulty a thick, yellowish mucus. There was pain near the base of the right lung. He perspired nearly all the time, but more at night than in the day. The bowels were generally costive. He was troubled with insomnia. Appetite was poor. Physical examination showed slight dullness about the bases of the lungs, and subcrepitant râles just above these localities. Bronchial râles were also noticeable. The fluid extract of cocillaña in ten-drop doses was ordered every three hours, together with quinine (two grains every four hours) and mustard externally. The report four days later was "better," but the cough still continued troublesome. The cocillaña was increased to fifteen drops, and in a few days gave marked improvement.

In a case of chronic laryngitis Dr. Bowen tried the concentrated tincture with negative results, though there was a marked increase in the quantity of mucus expectorated. He has obtained most decided benefit in cases of tonsillitis, and, from observation, says he would expect good results from its use in pseudo-membranous troubles.

Without overloading this paper with the report of more cases, most of which being forms of acute, subacute, and chronic bronchitis, broncho-pneumonia, and phthisis, all of which have been typified in those already reported, we will endeavor to draw a few practical conclusions in regard to the clinical use of this new drug. More experience, of course, would be desirable, but the forty cases carefully analyzed by Dr. D. D. Stewart, in the Medical News of August 24, 1889, the three communicated to us by Dr. Bowen, and our own fifteen, carefully studied, form not an entirely unsatisfactory basis upon which to establish some conclusions.

In its first effect cocillaña seems to be a stimulant expectorant, for the cough, from our observation, has always been increased somewhat at first, as well as the expectoration. But as its action continues it becomes a sedative, and by overstimulation diminishes the expectoration. This is shown clinically as well as by physiological experiment. Though it acts upon the alimentary mucous membrane, causing emesis and catharsis, when administered in high dosage, this does not interfere with its employment as an expectorant, since the dose necessary for the latter purpose is quite below that required to produce marked nausea and diarrhœa. Its occasional mild cathartic action when administered for its expectorant effects is highly advantageous, and nausea need not be feared unless injudicious dosage be employed.

We have noticed a feeling of weakness and depression occasionally following the use of full doses. This, together with the fact that it is a stimulant, particularly in the form of the tincture, leads us to contra-indicate it in phthisis and all those pulmonary affections having associated with them marked emaciation and debility. In the acute affections of the air-passages cocillaña should never be employed in the earlier stages when the mucous membranes are engorged and the cough is merely of an irritative sort without expectoration. As soon, however, as the period of exudation arrives, usually from a week to two weeks after the subsidence of the acute inflammatory symptoms—in a word, when the trouble is about becoming subacute, the use of full doses of the drug will give the happiest results. In the chronic forms of bronchitis, when there is an expectoration that is scanty, thick, and tenacious, the best results have been secured and positive cures obtained. In capillary bronchitis and in the chronic forms of broncho-pneumonia, cocillaña fails to give uniform relief, and for these we still retain our preference for the ammonia salts. We prefer the fluid extract to the concentrated tincture, both for its smaller dosage and greater uniformity of action. In regard to the dose, it will be noticed that we have used ten drops, sometimes fifteen, of the fluid extract every three or four hours. This would be an average, though we have no doubt but that some cases might bear even twenty or twenty-five drops. Nausea would be the proper indication that the maximum dose for a certain individual had been reached; hence, in some cases we have ordered the patient to increase the quantity until this effect was first noticed. As the physiological activity of the drug seems to terminate in about six hours, we have ordered and obtained the greatest benefits with the doses taken from three to four hours apart. We believe that in cocillaña we have a valuable addition to our materia medica. Of the drugs with which we are already familiar, it resembles most nearly ipecacuanha, and yet its action is sufficiently unlike that of the latter to warrant its being considered a remedy *sui generis*.

1938 N. Broad Street, Philadelphia.

A CASE OF TRANSVERSE PRESENTATION.

By JULIUS SOLOWEITSCHYK, M. D.

I consider the following case worthy the attention of the profession:

On the 26th of January last I was called at 4 P. M. to see Mrs. S., whom I found to be in labor. By external examination I ascertained that the head was to be felt toward the right, the breech to the left, and the heart sounds of the child could be distinctly heard on the left side at the height of the navel. The uterus was low down. By internal examination I learned that the os was dilated only enough to admit one finger, and, as the presenting part could not be felt, it seemed to be, without doubt, a case of transverse presentation. When the woman called at my office, three weeks before, to engage my services I had clearly established a transverse position of the fœtus. She gave the following history: This was her eleventh pregnancy. The first child had died of measles when six months old; the second was living and had reached the age of fifteen; the third was born at the seventh month, had cutaneous eruptions and ulcers about the anus, and lived only three months; in the fourth, fifth, and sixth pregnancies she had miscarried at the first month. In the seventh pregnancy there was a transverse position, and delivery was accomplished by turning, a dead child being extracted. In the eighth, ninth, and tenth pregnancies miscarriage had occurred at the fifth month.

When called in the present instance I found her in the condition above described. Pains occurred about every twenty-five minutes. I made continuous efforts to convert the transverse into a straight cranial position by external manipulation. At every pain I pressed the head, lying to the right, downward with my right hand, and at the same time with my left hand endeavored to elevate the breech from the left. Finally, after five or six hours' work, I succeeded in turning the child and obtaining a first cranial position. Soon after the turning was accomplished the excruciating agony caused by each pain, in consequence of the transverse stretching of the uterine walls, ceased entirely, but the woman immediately complained of a strong pressure under the heart, caused evidently by the sudden change of the child to the straight position.

The heart sounds of the child were now discernable toward the left instead of the right, and the cranial position could be plainly distinguished externally. For several hours I controlled the position of the uterus with both hands, endeavoring to prevent the head, which now presented, from receding. With the change in the position of the child the pains became less frequent, in consequence of the relaxed transverse tension of the uterus, and it was not until the next morning that they became more frequent and stronger, and the head descended and the os began to dilate. At 5 P. M. on the 27th the os had become fully dilated, and I ruptured the membranes. Soon afterward the head entered the upper strait, and at six o'clock the child was born alive. The labor lasted altogether twenty-six hours, and, although it had given me a great deal of trouble, I felt repaid by the birth of a living child.

If I had not succeeded in effecting the change of position externally I should have had to wait for the dilatation of the os and turn by the feet; but in that case there would have been no certainty of saving the child, especially as under similar circumstances in the seventh pregnancy the child had been born dead. This case has taught me that in transverse positions an effort should always be made to effect turning by external manipulation, and if this does not succeed, the combined turn must be made, trying to bring the head forward. I believe that in most cases the occipital turn can be effected, except perhaps in cases of contracted pelvis, which was not the condition in the present instance.

This case is also interesting from the fact that the woman had, without doubt, been infected formerly with syphilis, which had caused her former miscarriages and the bringing forth of children with hereditary syphilis. The birth of a perfectly healthy child, as in the present instance, tends to prove that syphilis will slowly lose its force and finally be eliminated from the system entirely.

I must add that in this case there remained to the left of the uterus a very sensitive spot, which I think was caused by the constant pressing of the child's feet against the uterine wall, as during the last months of pregnancy the woman complained of a severe pain in that spot. It has greatly diminished since delivery, and will probably soon cease, as its cause has been removed.

75 RIVINGTON STREET.

THE SHEET-SLING IN FORCEPS DELIVERIES.*

A NOTE

By ROBERT L. DICKINSON, M. D.,
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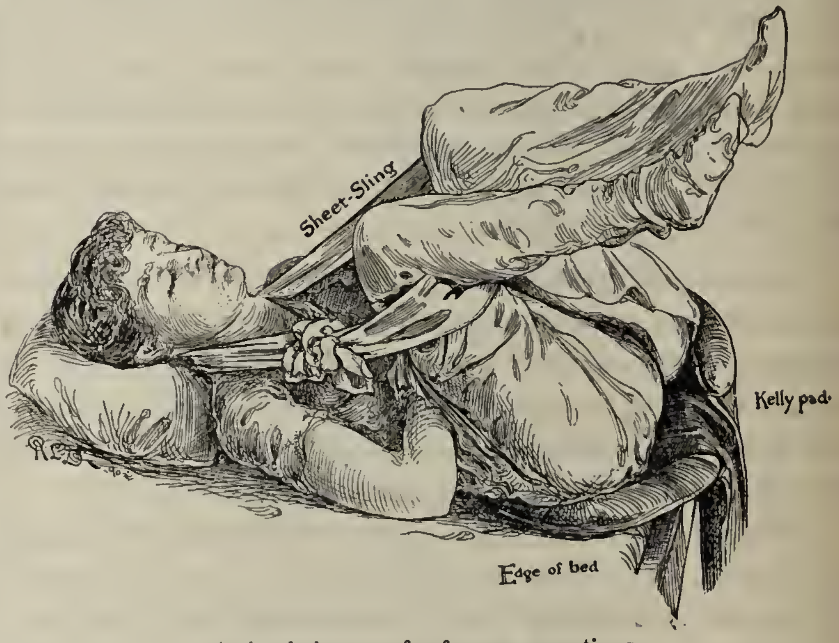
"A SIMPLE thing is this locomotive," said a friend of mine. "We have invented away its complicated parts." We need to invent away the complicated obstetric devices. Here is a small contribution toward that end which claims not originality, but every-day usefulness.

The crutches devised to steady the flexed lower limbs during operations do their work well, but are too cumbrous to carry. The plan shown in the sketch is a satisfactory substitute. A sheet is rolled and passed behind the neck and under the bent knees, and the thighs are flexed as far as possible. The extreme flexion of the knee gives the ham such a solid grip on the sheet that no sidewise slipping can occur, and the knees can be adjusted at any distance apart. The patient balances herself. She can not kick. The only assistant required is the one who gives the chloroform and "hands things." It is a good friend in low forceps-deliveries, in breech-extractions, in easy versions, and in restoration of the perinæum. Even in the severer cases that are major operations and require ether, operating-table, and assistants, it helps. For Sims's position it should go back of the shoulder on the upper side.



A simple harness for forceps operations.

The Strength of Brain Functions.—"That different functions of the brain have different strengths is not always recognized. A violent poison may paralyze the whole of the functions, and the rate at which they become extinguished is so great that it is impossible to say which goes first. In anæsthesia by means of ether the auditory perceptive centers seem to endure longer than the other perceptive centers; indeed, an expansive change appears to occur in them prior to their final closure. What we want to know is something more of the differing strengths of brain functions. This would be a great aid in the study of symptoms. At present the variations in the clinical course and progress of disease are as inexplicable as they are remarkable. That some further experimental researches on the relative strengths of the various nervous functions of the body would bring out facts of importance can not be doubted."—*Lancet.*

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* Presented before the Medical Society of the State of New York at its eighty-fourth annual meeting.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 5, 1890.

THE PESSARY OF THE FUTURE.

When it comes to pessaries, the medical profession, like ancient Gaul, is divided into three parts: One comprising those who use and believe in the instrument—stalwarts of the stalwarts; another composed of the natural foes of the pessary and the disgruntled or apostate deserters from the first faction —such as are denominated in the language of statecraft "Mugwumps"; and a third, independent or "floater" party, from the ranks of which the leaders of the two others are wont to draw temporary re-enforcements in "blocks of five" when engaged in strife with each other. This is of common occurrence, and the conflicts between the advocates and the opponents of pessaries are fierce and uncompromising, but singularly indecisive withal. The warfare is remittent in type, and never entirely in abeyance; it hath not charity, so that the clash of the hosts meeting in grim combat is remarkably isotonic with the clang of smitten brass—sonorous, but lacking the delicate shades and variations of harmony that appeal to the soul of the true lover of music. On the contrary, the war is waged with all the venom and malignity of a family feud, with verbal instead of leaden arguments, delivered with all the "damnable iteration" of the Winchester repeating rifles used in such instances. From this remarkable property of inducing, as by catalysis, a would-be internecine warfare between those who wot somewhat of its ways, the modern pessary of protean morphology and diversity of material may be said to surpass even the obstetric forceps and the vaginal speculum as a means of evoking the inventive genius and the innate pugnacity of physicians, not only stimulating healthy functional action, but constituting a perennial theme for discourse or writing, by which the lecturer, the medical-society orator, and the medical journalist are enabled to strike the most responsive and sensitive chords in the hearts of those to whom their words are addressed, be they words of execration or of fulsome praise of the instrument.

Now, the enemies of the pessary are sweeping in their denunciations of that appliance and of all who use it. Indeed, they regard it as a crystallization of the infinite misogeny of the paternal source of mendacity developed by that arch enemy of mankind during the forced inactivity resulting from a "ten good deeds or ten centuries in the hole" sentence imposed upon him for disorderly conduct, and at a time when his utter inability to produce even a tithe of the requisite sum of the fine forced him to accept the alternative. Free from the necessity of scrutinizing the River and Harbor bills and the like passed in Pandemonium relating to the construction of asbestos breakwaters and piers at Avernus Landing, he gave his whole mind to the matter, and, having experimented upon Astarte and Hecate, at last devised the pessary as the most efficient means by which he might bruise the heels (and incidentally the utero-sacral ligaments) of the daughters of Eve. They also aver that the Hogarthian line of beauty characterizing the profiles of many pessaries is evidence of an obliquity of moral nature and of devious ways of conduct, enabling the instrument to trundle merrily through the ample entrance and over the smooth road-bed of the boulevard leading to destruction, but causing it to become wedged inextricably at the very threshold of the narrow gateway to the foot-path of righteousness and to serve as a stumbling-block to those who would enter with it. The other faction enthusiastically laud the pessary as the gift of a beneficent Providence, and hold that the evil ascribed to it by its enemies is a result of their own ignorance and lack of skill in using it; in other words, that the mote which they allege to be visible in the pessary's eye is only a derivative from the rough, dust-laden beam projecting from their own orbital cavities, and, moreover, that, if the theory of the infernal origin of the instrument is correct, its detractors must be the special agents chosen by the foul fiend to execute his designs, for the pessary only fails to give satisfaction when improperly and clumsily used, and no one who understands its use has any reason to do aught else than thank God for it. And so on rolls the tide of battle, and is no nearer an end than when it began.

But now comes a powerful ally to the aid of the pro-pessary party in the shape of a report of the history of a case of insanity cured by means of a pessary inserted by an English physician, supplemented by the relation of a similar cure by one of his colleagues of well-known eminence as an obstetrician and gynæcologist. Of course, this signal advantage will be met by the sneer of incredulity or the scoffing "credat Judæus" of the enemy, according to the individual's custom of accumulating a store of golden silence or of dissipating a fortune of silver speech; but it must be proved that the pessary in its relation to insanity is in an ætiological rather than a remedial position before the effect of this great victory can be counteracted. Much excitement has already been caused by the report in professional circles, and there is to be expected an early movement on the part of those free-lances whose pessaries are advertised widely and vaunted as articles without which no woman can properly or consistently fulfill her destiny and continue a God-fearing existence, in the form of inordinate statements as to the sustaining powers of their respective instruments on the reason when it totters on its throne, and of allegations that their gentle upholding influence will minister unto the mind diseased synchronously with their special function of stretching out a helping hand to the fallen uterus.

The Commissioners of Lunacy should be required to ascertain the pessary-reaction in every case of alleged mental unsoundness in a woman before she is committed to an asylum, and it is not too much to predict that the strait jacket and the padded cell will vanish from the women's divisions of our asylums, where the melancholic shall lie down with the acute maniac, the hystero-epileptic cease from troubling, and the medical attendant be at rest. His hypodermic syringe shall be dry and incompetent, and he shall satisfy the demands made by delusions of grandeur and power, not by fictitious endowment with the scepter of the universe, but by the application of a remedial Albert Smith pessary or a Meigs's ring—the symbol of eternal completeness and order. It can scarcely be doubted that such an alienistic millennium for women is at hand, and it may be that investigation will bring out the fact that masculine reason may be saved from the shattering power of paresis and mania by the timely application of a suspensory bandage or by the life-giving emanations of a galvano-faradaic perineal pad. There are almost limitless possibilities suggested by only a superficial consideration of this subject of the pessary in its neurological capacity. It should be earnestly and thoroughly investigated in a spirit of scientific research, and ancient prejudice and obstinate dogmatism should not be permitted to pervert the action of an unbiased judgment of the value of plain facts as indications of the broadening field of usefulness now opened for the pessary of the future by this discovery.

THE CAUSES DETERMINING SEX.

At the beginning of the last century the theories concerning the causes that determined sex were estimated at five hundred. They have gone on increasing. The Evolution of Sex, by Patrick Geddes and J. Arthur Thompson, furnishes a complete, though concise, exposition of everything that is reasonable in regard to this interesting subject. To the question of when sex is determined no general answer can be given. The material is always the same apparently. The factors that influence sex are numerous, and are called into play at different times. It is possible that a germ-cell may have its fate changed more than once. The mother's constitution, the nutrition of the ovum, the constitution of the father, the state of the male element when fertilization occurs, the embryonic nutrition, and even the larval environment in some cases, exert a powerful influence upon the indefinite organism that ultimately takes on the quality of masculinity or femininity. Throughout nature the influence of food is undoubtedly one of the most important environmental factors. Drones, queen bees, and working bees are familiar examples of what food can do in determining sex among the honey-makers. Any inherent quality of sex in the ovum itself is no longer considered tenable. At the same time, there is a decided tendency in certain families to produce boys or girls in excess, just as twins are of frequent occurrence in others. Hough thinks males are born when the maternal system is at its best; more females at periods of growth, reparation, or disease. Some observers regard female offspring as arrested in the original state. Others consider females as degenerate from primitive males. Starkweather maintains that "neither sex is physically the superior, but both are essentially equal in a physiological sense." Yet in each pair a greater or lesser degree of superiority on one side or the other must usually be conceded. Granting this, Starkweather states, as his chief conclusion, that "sex is determined by the superior parent, also that the superior parent produces the opposite sex."

The time of fecundation of the ovum has been said to have something to do with the sex of the offspring. Its early fertilization, when it is young, is thought to favor the production of females, and the later entrance of spermatozooids that of males. Nations in time of hardships produce males, and in times of peace and plenty, females. Düsig's analyses show how the mechanism by which the proportion of the sexes is regulated is in a sense self-adjusting. There is always produced a majority of the sex that is wanted. If there is, for instance, a great majority of males, there is the greater likelihood of the ova being fertilized early; but that means a probable preponderance of female offspring, and thus the balance is restored. The authors of the book quoted give a diagram to illustrate the fundamental thesis that runs through the entire work. On the ground that nutritive, vegetative, and self-regarding processes within the plant or animal are opposed to the reproductive, multiplying, or species-regarding processes—as income to expenditure, or as building up to breaking down—there is necessarily a continuous antithesis between two sets of processes, between constructive and destructive metabolism.

This same contrast is recognized as the fundamental difference between male and female. The sum-total of functions is divided into nutritive and reproductive, the former into anabolic and catabolic processes, the latter into male and female activities.

The author's special theory lies in suggesting the parallelism of the two sets of processes—the male production is associated with preponderating catabolism, and the female with relative anabolism.

Here sexual selection needs a word. Darwin thought that, for love's sake, sexual selection accelerated males into gay coloring. According to Wallace, natural selection, for safety's sake, retarded females (birds or butterflies) and kept them inconspicuously plain. Facts suggest a compromise between these two ideas. The true view seems to be that both sexes have differentiated toward their respective goals, but the males faster, because so catabolic. The limits are constantly being fixed by natural selection in Wallace's case, and as constantly increased by sexual selection in Darwin's. The males transmit the majority of variations, because they have most to transmit. The female reproductive cells keep up the general constancy of the species; the male cells transmit variations. Females are the more passive, vegetative, conservative, and feeding forms. Males are more active and of shorter life. Strenuous spasmodic bursts of activity characterize men, especially in youth and among the less civilized races. Patient continuance, with less violent expenditure of energy, is as generally associated with the work of women. This contrast exists at the very threshold of sex-difference. A little active cell or spore, unable to develop of itself, unites in fatigue with a larger individual. Here, at the very first, is the radical distinction between male and female. The fable that the perfect creature was in mythological times cut in two, and that each imperfect part was constantly seeking its complement, is, in a somewhat different sense, borne out in fact, as revealed by scientific investigation, a predominance of anabolic elements producing females, while an excess of catabolism results in the production of males.

MINOR PARAGRAPHS.

THE PROPOSED REPEAL OF THE NEW YORK ENTRANCE EXAMINATION LAW.

The New York State law requiring the medical colleges of the State to exact of candidates for graduation, except those having the degree of bachelor of arts, a certificate of having passed a preliminary examination conducted under the authority of the Regents of the University is now under consideration in the Legislature on a motion for its repeal, and the motion has been passed by the Senate. The prospect that the law will be repealed within a year of its enactment is looked upon with apprehension by many persons who have exerted themselves to promote the advance of medical education in the State. It is not that they regard the Regents' examination as a very suitable one, but they view it as the thin end of a wedge, and they fear that its abolition will involve a relapse into the State's previous apathy concerning the requirements for the medical degree. On the other hand, it is urged that, inasmuch as two matriculation examinations ought not to be insisted on, the one that had already been instituted by one of the metropolitan schools—an examination considered to be far more appropriate than the Regents'—will be abandoned if the law is allowed to remain in force. It is argued also that it is practically impossible for non-residents of the State, who come to New York to complete a medical course begun elsewhere, to pass the Regents' examination "prior to entering upon the prescribed three years' study of medicine." These non-residents will be compelled to take their final course elsewhere than in the State of New York, if the present law continues in force, and thus the medical schools of the State will suffer. It must be acknowledged, we think, that these objections to the law are such as ought to be duly considered, especially as the leading colleges are disposed to take concerted action in the matter of a matriculation examination of their own.

THE DISTRICT OF COLUMBIA ANATOMY BILL.

A bill is now before Congress for legalizing and regulating the acquirement of anatomical material by the medical colleges of the District of Columbia. Its provisions are essentially the same as those embodied in the anatomy acts in force in most of the States. They are proper and humane, and there ought to be no delay in the passage of the bill. At present the medical schools of Washington have to depend on the resurrectionists, and it appears that cemeteries are desecrated as a matter of sheer necessity. The scarcity of cadavers, the difficulty of procuring them, and the dangers incurred in the study of practical anatomy work great hardship to the schools, and not to them alone, for Surgeon-General Hamilton states that, in the examination of candidates for appointment to the Marine-Hospital Service, the performance of surgical operations on the cadaver has sometimes had to be waived for lack of material. This feature of the examination is required by the Government in the case of the army and the navy, so that an examination of candidates for the medical corps can not legally be carried on in the District of Columbia—a state of things highly discreditable to the Government. The pending bill has been ably supported before the Congressional Committee by Dr. A. F. A. King, Dr. John B. Hamilton, Dr. D. S. Lamb, Dr. G. W. West, Dr. J. L. Wortman, and Dr. D. K. Shute, whose argument reveals the state of affairs that we have mentioned.

ANATOMICAL NOMENCLATURE.

The Association of American Anatomists has adopted a preliminary report rendered by its Committee on Anatomical Nomenclature, consisting of Dr. Joseph Leidy, chairman; Dr. Harrison Allen, Dr. Frank Baker, Dr. Thomas B. Stowell, and Dr. Burt G. Wilder, secretary. The report recommends the substitution of the words *dorsal* and *ventral* for *posterior* and *anterior* as commonly used in human anatomy, especially as applied to the cornua of the spinal cord, and for *upper* and *lower* as sometimes used in comparative anatomy; the substitution of *thoracic* for *dorsal* as applied to the costiferous vertebræ; and that of *calcar* for *hippocampus minor*, *hippocampus* for *hippocampus major*, *pons* for *pons Varolii*, *insula* for *insula Reilii*, and *pia* and *dura* respectively for *pia mater* and *dura mater*.

THE MEDICAL LITERATURE OF INDIA.

The medical literature of British India, if not copious, is of sterling quality; such writings as Sir Joseph Fayrer's, Mr. Dymock's, and others that might be mentioned are in the highest degree creditable. As regards Indian periodical literature, it seems to be growing. We have long been accustomed to the excellent Indian Medical Gazette, of Calcutta, and now a new journal, the Medical Magazine, has been started on what we hope will prove a fortunate career, under the management of Mr. A. W. Soffy, of Lahore, and under the patronage of the professors of the medical schools at Lahore and Agra. Besides their contributions and those of other Europeans, the Magazine gives articles by the most noted native physicians, who follow the Unani and Vedic systems of medicine.

THE INTER-STATE QUARANTINE LAW.

Elsewhere in this issue we print the new national Contagious Diseases Law, which, having passed both Houses of Congress, was signed by the President last week. It will be seen that it is supplemental to antecedent legislation, although, viewed by itself, it marks a decided advance in the measures taken by the Government for the management of infectious diseases. With Surgeon-General Hamilton's tenure of office made independent of the politicians, and with this law strengthening his hands, we may expect future freedom from the vacillating and timid policy that has sometimes proved disastrous to attempts at checking the spread of epidemics.

THE ACADEMY OF MEDICINE'S NEW BUILDING.

It is cheerful to see the notification in print that the Library of the New York Academy of Medicine will be closed from about the 16th of April until further notice, in order that the books may be packed and removed to the new building, for it is a tangible sign that the structure in West Forty-third Street, which has for several months borne the outward appearance of completion, is almost ready for occupation.

THE AMERICAN AMBULANCE IN PARIS.

The ambulance wagons that were introduced into Paris a year or two ago have become a familiar and popular feature on the streets. The people stand and salute or cheer them as they are driven by. When distinguished persons come to the city an ambulance drill, it is said, is ordered for their diversion. The Parisian authorities are not in the least reluctant to acknowledge that the system had its origin on this side of the ocean, since each vehicle is marked plainly with the sign "American Ambulance."

ST. BARTHOLOMEW'S HOSPITAL AND DISPENSARY.

The first Annual Report of this institution, situated in Carmine Street, is calculated to impress the reader with the usefulness of the hospital. Its objects include the treatment of cutaneous and venereal diseases and all genito-urinary diseases, and investigations tending to aid in checking the spread of such of them as are infectious or contagious.

THE INSANE POOR OF THE STATE OF NEW YORK.

As we go to press the good news comes from Albany that the bill transferring the care of the indigent insane, except in the counties of New York, Kings, and Monroe, from the counties to the State has passed the Legislature. This beneficent measure has already been delayed too long, and we trust that it will meet with the Executive approval promptly.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 1, 1890:

DISEASES.	Week ending Mar. 25.		Week ending Apr. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	10	4	8	2
Scarlet fever	70	10	72	9
Cerebro-spinal meningitis	2	0	4	1
Measles	215	12	224	11
Diphtheria	87	27	108	28
Varicella	12	0	2	0

The Society of the Alumni of Bellevue Hospital.—The thirty-second stated meeting and the first annual reunion will be held on Tuesday and Wednesday, April 8th and 9th. The programme for the scientific meetings, to be held at the Mott Memorial Hall, No. 64 Madison Avenue, is as follows: Tuesday, April 8th, at 8 P. M.: The Treatment of Simple Fracture of the Patella by Wiring, by Dr. Charles Phelps (discussion by Dr. Abbe, Dr. W. T. Bull, Dr. Bryant, Dr. Dennis, Dr. Fluhrer, Dr. Lange, Dr. T. M. Markoe, Dr. McBurney, Dr. Leale, Dr. L. A. Stimson, and Dr. Stephen Smith). Wednesday, April 9th, at 11 A. M.: Clinic at Bellevue Hospital, by Dr. L. A. Sayre; 2.30 P. M., at Mott Memorial Hall, Ultimate Results of Injuries to the Hip, by Dr. Reuben A. Vance, of Cleveland, O. (discussion by Dr. F. Hartley, Dr. R. H. Sayre, Dr. Newton M. Shaffer, Dr. J. McG. Woodbury, and Dr. J. A. Wyeth); discussion on Transient Glycosuria and Delicate Tests for Sugar in the Urine, by Dr. Brandreth Symonds, of the New York Life Insurance Co., and Dr. John Warren, of the Equitable Life Insurance Co., Dr. H. M. Biggs, Dr. A. Flint, Dr. G. B. Fowler, Dr. R. W. Greene, Dr. A. Jacobi, and Dr. E. G. Janeway. Thursday, April 10th, at 11 A. M.: Clinic at Bellevue Hospital, by Dr. W. T. Lusk.

The Western Pennsylvania Medical College, of Pittsburgh, held its fourth annual commencement exercises on the 27th of March, and conferred the degree of M. D. on twenty-nine candidates.

Mt. Sinai Hospital.—The new dispensary will be opened shortly. Several additional departments having been established, there will be vacancies for ten physicians and two dentists, who must be proficient in the German language. Application may be made to the chairman of the Dispensary Committee, Mr. S. L. Fatman.

The Randall's Island Hospitals.—Dr. Frederick J. Leviseur has been appointed visiting dermatologist to the hospitals.

The Medico-chirurgical College of Philadelphia will hold its commencement exercises on Thursday, the 10th inst. Dr. John V. Shoemaker will deliver an address to the graduates.

The New York Infant Asylum.—Dr. George T. Elliot has been appointed dermatologist, and Dr. W. R. Townsend orthopædic surgeon, to this institution.

The Nu Sigma Nu Fraternity.—A chapter has been instituted in Philadelphia.

The Kings County Medical Association.—At the next meeting, to be held on April 11th, a paper will be read by Dr. Henry B. Reed, on The Progress of Sanitary Reform in Mills, Factories, and Workshops.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 23 to March 29, 1890:*

Birmingham, Henry P., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from station at Fort Klamath, Oregon, and from temporary duty at Vancouver Barracks, Washington, and will report in person to the commanding officer, Boise Barracks, Idaho, for duty at that post. Par. 6, S. O. 72, A. G. O., Washington, D. C., March 27, 1890.

Taylor, M. E., Captain and Assistant Surgeon, is granted leave of absence for one month, based on surgeon's certificate of disability, with permission to apply for an extension of one month. Par. 3, S. O. 26, Department of the Columbia, March 18, 1890.

Taylor, Marcus E., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted authority for admission to the Army and Navy General Hospital, Hot Springs, Arkansas, for treatment therein. Par. 6, S. O. —, A. G. O., March 21, 1890.

Jarvis, N. S., First Lieutenant and Assistant Surgeon, is granted leave of absence for one month, with permission to apply for an extension of fifteen days. Par. 1, S. O. 34, Headquarters Department of the Missouri, Fort Leavenworth, Kansas, March 20, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending March 29, 1890:*

Ames, H. E., Passed Assistant Surgeon. Ordered to Museum of Hygiene, Washington, D. C.

Society Meetings for the Coming Week:

Monday, *April 7th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association (annual); Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society (annual).

Tuesday, *April 8th:* Medical Association of the State of Alabama (first day—Birmingham); Florida State Medical Society (first day—Ocala); Medical Society of the State of Tennessee (first day—Memphis); New York Medical Union (private); Medical Societies of the Counties of Jefferson (quarterly—Watertown), Oneida (quarterly—Utica), Ontario (quarterly), Rensselaer, and Tioga (quarterly—Owego), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Bergen (annual—Hackensack) and Cumberland (annual), N. J., County Medical Societies; Fairfield, Conn., County Medical Association (annual); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *April 9th:* Medical Association of the State of Alabama (second day); Florida State Medical Society (second day); Medical Society of the State of Tennessee (second day); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society; Kansas City Ophthalmological and Otological Society.

Thursday, *April 10th:* Medical Association of the State of Alabama (third day); Florida State Medical Society (third day); Medical Society of the State of Tennessee (third day); New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; New York Laryngological Society; Medical Societies of the Counties of Cayuga and Fulton (quarterly), N. Y.; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; New London, Conn., County Medical Society (annual).

Friday, *April 11th:* Medical Association of the State of Alabama (fourth day); New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

Saturday, *April 12th:* Obstetrical Society of Boston (private).

Letters to the Editor.

THE PHYSIOLOGY OF THE TONSILS.

Fort McDowell, A. T., *March 19, 1890.*

To the Editor of the New York Medical Journal:

Sir: In reply to Dr. Thayer's inquiry, on page 269 of your current volume, I inclose references to the bulk of the publications on the subject during the year 1889:

Journal of the American Medical Association, vol. xiii, page 723.

New York Medical Journal, vol. xlix, page 109; vol. l, pages 150, 159, 371, 386, 393.

Medical News, vol. liv, pages 62, 638, 678; vol. lv, pages 254, 693.

Medical Record, vol. xxxiv, pages 593, 733 (something bearing upon the subject).

Lancet, vol. ii, of 1887, page 1311; vol. ii, of 1888, page 805 (this is probably the article referred to).

Also an editorial, page 626.

There are other articles, but I can not give volume and page at present.

M. C. Wyeth,
Captain and Assistant Surgeon, U. S. Army,
Post Surgeon.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of February 21, 1890.

Dr. V. P. Gibney in the Chair.

Double Congenital Equino-varus.—Dr. Frank Hartley presented a case of this affection. The patient, a male, twenty years of age, a cigarmaker, was admitted to the Roosevelt Hospital on May 27, 1889. This deformity, which had been present since birth, had increased between the sixth and twelfth years, and, although it had not caused much pain, he walked with a curious shuffle of the foot from side to side. He was very desirous of an operation. Examination showed that there was about two thirds of the normal motion of the ankle joint, and that the neck of the astragalus was twisted so as to look directly inward, and the os calcis was placed obliquely to the tibia. He had the peculiar pallor of the skin and mucous membranes commonly seen in cigarmakers. Heart, lungs, and kidneys were normal. On June 5th a cuneiform osteotomy was performed over the greatest convexity of the left foot. The wedge of bone removed consisted of portions of the tibia and fibula, the whole of the astragalus, and enough of the cuboid, scaphoid, and os calcis to allow of a reduction of the deformity. The foot was placed at once in proper position. Healing was normal, and on July 25th a similar osteotomy was done upon the other foot. The wedge removed consisted, as in the other foot, of a portion of the tibia and fibula, the whole of the astragalus and scaphoid, and portions of the os calcis and cuboid. On August 24th union in the left foot was good, and fairly good in the right foot. By the middle of October he was allowed to walk about the wards, and on November 29th he was discharged from the hospital, and had since been under observation in the Out-patient Department. The muscles were gaining rapidly in size and strength under daily applications of electricity. Crutches were only used for long walks, and, judging from the progress so far, these could be discarded in a month or two, and possibly in four months even the retentive apparatus which he now wore could be removed. The speaker did not consider this deformity the result of an arrest of development, but of pressure effects within the uterus. He believed these cases of secondary congenital club-foot could usually be cured by mechanical measures, although the severest forms required, as in the present case, an operation.

Deformity of Both Feet.—Dr. John Ridlon presented a male patient, eighteen years of age, who came under observation last April for a deformity of both feet which had made walking difficult and painful for the previous two years. There was cavus and equinus, and, on walking, varus of both feet. There were no reflexes on "point pressure." On April 4, 1889, Dr. George S. Huntington had divided the plantar tissues of the right foot by open incision, and, having forced the foot into proper position with Thomas's wrench, had divided the tendo Achillis subcutaneously. On May 8th a similar operation was done upon the left foot, and was followed by primary union. The patient was now able to walk well and without discomfort.

Dr. Ridlon also presented a boy of thirteen years, who first came under his observation on May 12, 1889, having begun to limp about three months previous. The foot was found to be held rigid in the position of valgus by contraction of the extensor and peroneal muscles; but when the patient was etherized with the intention of dividing these tendons, the foot could be easily placed in a position of equino-varus. It was retained in this position by plaster of Paris for about two months. There was no pain following this manipulation and replacement of the foot; and when the plaster was removed, motion at the ankle and tarsal joints was normal, and the limp had disappeared. On October 4th he was found to have relapsed into his former condition. The foot was placed in the best possible position, and had since then been retained in this position by plaster of Paris.

Cuneiform Osteotomy.—The Chairman presented a woman, twenty-five years of age, who had been referred to him in December, 1887. She walked on the outer borders of the feet, where large callosities served as a base of support. The soles of the feet looked backward and upward, and her gait was especially reel-like. There were extensive cicatrices over the tendo Achillis, and it was quite impossible to correct the deformity by manual force. On December 26, 1887, a cuneiform osteotomy after the method of Dr. Charles T. Poore was performed; but after extensive section of the bones and free division of the deltoid ligment, and of a few resisting points of the plantar fascia, it was not possible to place the foot in proper position. A free lateral incision was then made, and muscles and tendons divided after the manner of Dr. Phelps. After some further difficulty a good position was secured, and the foot was placed in a Thomas club-foot shoe, over which plaster of Paris was applied. The dressings were removed on the following day on account of free oozing. By December 30th it was found absolutely necessary to put her in charge of a trained nurse, and from this time until February 16th she suffered from septicæmia. At the end of this period the wounds were healing rapidly, and the foot was in excellent position. On February 22d, after her admission to the Hospital for Ruptured and Crippled, a similar cuneiform osteotomy was done upon the other foot, which was then brought into good position and dressed antiseptically, and covered with a plaster-of-Paris bandage. Nearly all the wound healed by first intention, and recovery was uninterrupted, although retarded by the presence of corns and tender callosities. She got on very well now, although the gait at present was very much modified by the condition of these corns.

Dr. H. W. Berg took exception to Dr. Hartley's statement that the deformity in his patient was probably caused by too little space in the uterus; he thought this theory had been pretty generally abandoned.

Dr. Hartley replied that he did not think this was the case, as in Bessel-Hagan's book on the Ætiology and Pathogenesis of Club-foot considerable space was given to this very thing.

Dr. N. M. Shaffer had found that a certain number of cases of adult club-foot yielded to mechanical measures, while in many of those which were only amenable to operative treatment the patient's condition untreated was often as good as that obtained by operation. One great obstacle to the treatment of these cases was the cicatrices from previous operations.

Dr. H. L. Taylor said that a new instrument just perfected by Dr. Bradford, of Boston, offered another alternative to methods already in use. By it the surgeon was able to obtain a very perfect grasp of the foot, and thus twist it into position.

Dr. Samuel Ketch remarked that Dr. Ridlon's second case showed decided reflex spasm and pain on rotation of the foot, and he considered the case one of valgus, symptomatic of some bone lesion. The rapid relapse seemed to favor the view of the osteitic origin of the trouble.

Dr. Berg thought the bone lesion was probably at the point where the outer malleolus impinged upon the astragalus. There was certainly no muscular trouble present.

Dr. Shaffer felt sure there was some bone irritation present, and, as it was more resistant to adduction than to the other movements, when the astragalus and scaphoid were crowded together, he thought the lesion was probably located at the articulation between the astragalus and scaphoid, but not involving the ankle joint itself. He had had a similar experience in regard to the sudden disappearance of the deformity after etherization; but he had not suspected a tubercular osteitis, because he had never seen such cases go on to suppuration. They were more like inflammatory flat-foot, running a long course, and ultimately terminating not in ankylosis, but in recovery with pretty good function.

Dr. A. B. Judson was likewise of the opinion that the case was one of articular osteitis, and its duration would favor this view. The circulation of the limb being normal, eliminated the presence of a nervous lesion.

Dr. Ridlon, in closing the discussion on this case, said he could not conceive it possible that a tubercular osteitis could be subjected to such vigorous manipulation without being followed by some evil consequences. When the spasm had existed, the patient had always complained of pain on attempted motion, but he walked and jumped around like other boys. Was it possible that an osteitis could exist for a year, as this had done, under such treatment, without an aggravation of the disease?

Dr. W. R. Townsend presented for the chairman the left knee from a case of double hip-joint disease which had been removed post mortem. The joint had been immobilized in a plaster-of-Paris splint for eighteen months. There was no disease at the knee when the first plaster had been applied, and the long confinement of the joint showed that no gross changes had occurred in the bones or cartilages. The synovial membrane was removed and found apparently healthy, and the joint contained a small amount of synovial fluid when first opened. The motions were limited to an arc of about fifteen degrees, and yet, after the ligamentum patellæ was divided, extension and flexion could be made to the full limit. The lateral ligament did not seem contracted.

Dr. Berg said that the specimen only showed that the joint surfaces were normal, but it did not show that the soft parts had not been affected by prolonged immobilization. The specimen was of medico-legal interest, because it was sometimes alleged that real and permanent disability had resulted from such prolonged immobilization.

Dr. Shaffer feared the results of prolonged immobilization, for, in an experience with seven cases of ununited fracture of the femur, it had resulted in effusion into the knee joint. He had employed in these cases an apparatus which made traction upon the thigh, but which was not applied below the knee.

Dr. Ridlon thought a distinction should be made between the immobilization of cases of fracture adjacent to joints and of healthy joints which were positively free from any injury, for the results in the two classes of cases were widely different. The traction apparatus employed by Dr. Shaffer might have produced constriction of the limb, and so led indirectly to effusion into the joint.

Dr. Judson said that ankylosis was the result of inflammation, and immobilization of an inflamed joint, or the arrest of function, was a primary antiphlogistic.

Dr. Hartley said that in fractures in the lower part of the thigh, where there was a possibility of hæmorrhage into the joint, passive motion should be begun as soon as possible; but in fractures high up, with very little possibility of injury to the joint, longer immobilization was permissible. It was often very difficult to estimate the amount of injury to a joint at the time of a fracture or other severe injury.

Dr. Taylor said that he never hesitated to immobilize a healthy joint for any length of time that might be necessary, and he had never seen any bad results from it.

A Flat-foot Plate.—Dr. Ridlon described an easy and inexpensive method of producing the flat-foot plate used by Dr. Whitman. The usual method was to have an iron foot made, on which the plates were hammered out. Recalling the copper-plated plaster casts recently exhibited to the Section by Dr. A. M. Phelps, he had taken a plaster-of-Paris cast to Lovejoy, of 45 Rose Street, who had coated it with a solution of silver, and then, by means of electro-deposition, had obtained a copper plate of the desired thickness, and at a cost of only $1.50. The copper plate so prepared was exhibited.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN MEDICINE.

Meeting of January 24, 1890.

The President, Dr. Atthill, in the Chair.

Angina Pectoris in the Heart-Palsy of Acute Specific Infective Disease.—Dr. J. W. Moore read a paper the object of which was to bring under notice a cause of "breast-pang," or angina pectoris, which seemed not to have attracted that attention to which it was entitled. The cause in question was the cardiac paralysis due to acute infective diseases and especially to diphtheria. Within the past year three notable cases of heart-failure in infective disease had come under the author's observation. Of these the first and third were cases of diphtheria; the second was a case of septicæmia. The first showed no marked anginal symptoms; in the second and third these were present in an extreme degree. The group of symptoms described as "angina pectoris" might show themselves in the latter stages of any of the acute infective diseases, particularly septicæmia, pyæmia, and diphtheria. The anginal attacks of acute infective disease often answered the definition given by Dr. Byrom Bramwell of true angina pectoris—namely, a "neurotic affection characterized by paroxysms of intense pain in the region of the heart, and a terrible sensation of impending death . . . the affection is in many cases associated with organic disease of the heart and the root of the aorta, and in its typical and severe forms is apt to prove suddenly fatal." But it should be noted that this author, while drawing a clinical distinction between true angina pectoris—rarely met with before the age of forty—and the pseudo-angina, or attacks of cardiac pain to which young persons were liable, was careful to state that the two forms ran one into the other, and that it was sometimes difficult or impossible to separate them at the bedside. These seizures of angina in infective disease appeared to arise in the following ways: Deficient innervation of the heart, or a true cardiac paralysis; a granulo-fatty degeneration of the heart-muscle, the result of an acute parenchymatous myocarditis; and a sudden increase of tension in the peripheral arteries, due to a cause acting upon the body from without, reacting upon an already weakened heart—the *angina pectoris vaso-motoria* of Nothnagel. Any one of these causes might operate singly in a given case; or two or more of them might be combined so as to determine an anginal attack.

Treatment was often attended by the happiest results in the angina of heart failure from infective diseases—the most useful therapeutical measures being:

The administration of alcoholic and diffusible stimulants, the application of hot poultices over the heart and of mustard epithems to the extremities; besides the foregoing, the administration of heart tonics and stimulants—such as nux vomica and strychnine, arsenic, digitalis, convallaria, and strophanthus; and the administration of the nitrites—spirit of nitrous ether, nitrite of amyl, and nitroglycerin, as well as iodide of ethyl, and such like remedies.

Dr. A. W. Foot observed that the latter half of the communication was devoted to a point already ascertained—namely, that sudden death occurred even after recovery from the acute illness of diphtheria—*e. g.*, at a former meeting a patient had been exhibited in proof of recovery from severe diphtheria, and on the following day she had died. Trousseau had recorded a case of death a year after recovery. Hence he assumed that in the cases of recovery specified the patients had not lived long enough yet to die. The other part of Dr. Moore's communication pointed to the development of angina pectoris in a new direction. It was contrary to experience to find the disease, save in rare cases, occur among females and children. Heberden had noted, as a rare instance, the disease in a boy aged twelve; and Sir John Forbes, out of eighty-eight cases, did not find one in a child. Therefore he contended that the existence of the disease in a child of three years of age should be established on very certain clinical data.

Dr. Moore, in reply, said it was idle to deny that angina pectoris occurred in females. He recalled the case of a lady whom Dr. Foot had seen with himself at death's door. The same lady fifteen months afterward, facing a breeze while going to a railway station, was seized with agonizing pain in the left side of the chest, and she died in ten minutes. Angina pectoris was not an essentially isolated disease at all, but was the term applied to a group of symptoms which might be present in convalescence or in acute infective disease; and, instead of accepting even the most classical account of it as complete, it was open to any observer to add to the recognized cases.

A Remarkable Case of Intestinal Obstruction.—Dr. Wallace Beatty read a paper on a remarkable case of intestinal obstruction. The patient, a boy aged ten, came under his care on January 16, 1889, having been ill for four days. The illness commenced suddenly with severe abdominal pain, chiefly referred to the region of the cæcum. In a few hours vomiting occurred, but only lasted one day; diarrhœa in moderate amount set in also. The symptoms during the first four days were not very urgent. When Dr. Beatty saw him there were abdominal pain of moderate severity, tenderness on pressure over the right iliac fossa, and some tension of the abdominal walls. Temperature, 99° F.; a rather weak pulse and a furred tongue. From the fourth day until the nineteenth the boy's condition was: Some diarrhœa; slight tension of the abdominal walls; tenderness in the right iliac fossa; moderate fever, the highest temperature reached being 101° F.; no vomiting. On the eighteenth and nineteenth days an indistinct tumor was felt on deep pressure in the right iliac fossa. On the nineteenth day a change in the symptoms occurred, this change consisting in paroxysms of severe abdominal pain, vomiting, distension of the abdomen, and obstinate constipation. Obstruction of the bowels had set in; the obstruction lasted for thirty-two days, yielding suddenly on the fiftieth day from commencement of the illness. During these thirty-two days the symptoms were: (1) rapidly increasing distension of the abdomen, commencing in the umbilical region and subsequently involving the whole abdomen; (2) paroxysms of abdominal pain, becoming each day more and more agonizing, and only subdued by repeated hypodermics of morphine; (3) frequent vomiting of bilious fluid—on only one or two occasions had the vomited matter a fæculent appearance; (4) obstruction of the bowels almost complete—on only a few occasions some wind and a scanty amount of fæces came away, without being followed by relief; (5) rapidly increasing emaciation, which finally became extreme; (6) a normal or subnormal temperature; (7) a pulse of fair volume during the greater part of the time, and of moderate frequency—*i. e.*, under 100. At the termination of this period the pulse became more frequent. The boy was apparently dying—with cold extremities, scarcely perceptible pulse, infrequent respirations (4 in a minute)—when the obstruction suddenly gave way, and pints of fluid fæces were passed. He made an excellent recovery. Dr. Beatty had been assisted by Sir William Stokes in the conduct of the case. They considered the case to be one of typhlitis, producing paralysis of the bowel, and so leading to intestinal obstruction.

Sir William Stokes, who had been consulted in the case, said the interest of it centered round two points—(1) the diagnosis and (2) the treatment. On more than one occasion operative surgical interference had been seriously discussed, backed by recommendations both in this country and in England that the patient should get the chance of laparotomy. But he persistently opposed that course. He did not think it was a case of intussusception. He looked upon it as a case of typhlitis, and thought that the paralytic condition which brought about the obstruction was due to localized inflammation. The indications in support of his view were: First, the early febrile disturbance; and, secondly, the absence (notwithstanding Treves's dictum) of shock, collapse, diminution of temperature, and failure of the pulse, which in every case of intussusception were present. On the other hand, the early diarrhœa indicated that there was no typhlitis, except for the consideration that the patient was a boy who, like the majority of boys, was fond of sweetmeats, and had the opportunity of free indulgence. Hence he concluded that the early stage was diarrhœa, and that typhlitis was the sequel. In that condition of things, and believing that it was not a case of purely mechanical obstruction, he knew that to open the boy's abdomen would militate against a successful result. Indeed, he did not think there was a single instance recorded in Dublin of a successful result obtained by laparotomy for the relief of acute intestinal obstruction in a child. However, this would not have deterred him from operating if he had been sure he would have to deal with a mechanical obstruction.

Dr. Foot was of opinion that the case was one of general, diffuse, subacute peritonitis. The tenacity of life in children was proverbial; so that none should ever despair of a child's recovery. Puncturing the intestine was a most salutary process. He had himself, in an obstinate case in the Meath Hospital, punctured the tympanitic intestine of a boy, aged twelve, who, sleepless for days before, fell asleep immediately after, and whose first words when he awoke were: "Doctor, give me another prod."

Dr. Macan said the expression "gave an enema" was too indefinite, as not indicating the mode of giving it. An enema was effectual or ineffectual according to the way in which it was given. As regarded Sir William Stokes's reluctance to operate, he did not think it was a sufficient reason to say that the case was one of typhlitis, because typhlitis had been successfully treated by abdominal section many times.

The President said Dr. Beatty's case was an unusual one. He had had experience himself of a case of a fat elderly woman upon whom he operated successfully for an ovarian tumor. She had abnormal abdominal distension, with moderately high temperature and vomiting, and twenty-one days elapsed without a motion. The distension was so great that the abdominal wound opened to a considerable extent. She was kept alive by nutritive enemata. After the evacuation took place she recovered. Where the constipation was due to inflammatory causes, an operation should, if possible, be avoided.

Mr. Ormsby did not think that three grains and a half of morphine helped to increase the peristaltic action of the intestine.

Dr. Beatty said that he had concurred with Sir William Stokes in objecting to an operation. Once they had determined that the case was one of paralytic obstruction, the only operation would be an artificial anus, which in the boy's case would have meant death. He dissented from Dr. Foot's view as to the case having been one of local peritonitis becoming general. The boy was not collapsed, and the distension commenced in the region of the umbilicus, and slowly extended to other parts of the abdomen. Only as much morphine was given as was absolutely necessary to relieve the pain.

Reports on the Progress of Medicine.

CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M.D.,
NEW YORK.

Pharyngo-nasal Syphilis.—Gerber asserts (Archiv f. Derm. u. Syph., 1889, xxi, 475) that sufficient attention to syphilis of the naso-pharynx has not been given by writers either upon syphilis or diseases of the nose and throat; and that usually such writers describe only those lesions of grave character occurring in syphilis in which the deeper structures are affected. He then cites some twenty-five cases of lesions of the naso-pharynx, and says that it is very difficult to give a general description of the malady, as each case is peculiar in itself. As principal symptoms, pain in the throat, difficulty in swallowing, pains in the ears, and defects of hearing may be given. Syphilis of the naso-pharynx may be present without any recognizable alteration in the pharyngo-oral cavity, even without the inflammatory swelling of the velum and the change of color of its oral surface that have been considered as pathognomonic of syphilis. These occur only with deep ulceration of the nasal surface of the velum. When the mouth and lower pharynx are also affected we have greater difficulty in swallowing solid food, and, when perforation of the velum and palate takes place, fluid food gets into the nose, and we hear the nasal voice. The diagnosis of the early stage of naso-pharyngeal syphilis is difficult. The history of the patient can not be depended upon. Long-continued stoppage of the nose, nasal voice, loss of sense of smell, and fœtor are not diagnostic of syphilis. More or less redness and swelling of the nose and tenderness of the same, combined with unilateral headache, should awaken the suspicion of syphilis. Cachexia is another suspicious sign. The rhinoscopic examination is most to be depended upon in diagnosis. We find ulcerations specially upon the nasal septum, which not infrequently take the form of a furrow. Their floors, if deep, are filled with granulations or covered with disintegrated tissue, through which the sound readily passes to find uncovered cartilage or bone. The mucous membrane of the turbinated bones is swollen, sometimes like polypous masses. Perforation of the septum is met with later in the disease.

Pharyngo-oral syphilis seems to locate itself most frequently upon the velum, and after that upon the posterior wall of the pharynx. The tonsils are less often affected in late than in early syphilis. Pharyngo-nasal syphilis seems, by Gerber's statistics, to occur most frequently between the eighth and fourteenth years after infection, and least frequently between the third and eighth years. Of the twenty-seven cases, nine had never had any antisyphilitic treatment; only six had had thorough inunction treatment; seven had had a few inunctions, while five had had either a few sublimate injections or some potassium iodide. Treatment by local and constitutional antisyphilitic measures checked the disease.

Dermatitis Herpetiformis.—Duhring's service to dermatology in observing and describing this disease is heartily acknowledged by Unna (Monatshft. f. prakt. Dermat., 1889, ix, No. 3). He would define it as "a chronic neurosis of the skin which does not affect the general condition of the patient to any marked extent; and is characterized by a more or less universal eruption of an erythemato-bullous type of varying severity, preceded and accompanied by burning and itching, and by relapsing after more or less long intervals of exemption." This tendency to relapse is regarded as essential from a diagnostic standpoint, and without a history of the same a positive diagnosis can not be made. The four diagnostic symptoms are: 1. Relapses. 2. Hyperæsthesia. 3. Extraordinary polymorphism of the eruption, all being variations of the erythemato-bullous type. 4. A relatively good general condition of the patient. Perversion of sensation is not so essential for diagnosis as relapses are. It is rather a mixture of burning and itching than itching alone that the patients experience. The presence of such subjective sensations excludes true pemphigus, while it places all the cases of pemphigus pruriginosus in its ranks. In true pemphigus the patient dreads being touched or applying anything to the lesions, which is just contrary to what obtains in Duhring's disease. Polymorphism, such as we see in a well-developed case of this disease, is met with in no other. In some cases it is wanting. Still the "ground type" is the development of a papular erythema through a stage of herpetic vesicles into bullæ. Pustules and furuncles are rather infrequently met with, and then only on account of local infection with pus cocci. Some cases of erythema multiforme present symptoms a good deal like those of dermatitis herpetiformis, but the lesions in that disease are located upon the backs of the arms and hands, and the hyperæsthesia is wanting. It is further due to external causes (?). The name that Duhring chose for the disease—"dermatitis herpetiformis"—is not approved of by Unna, who proposes to use for it the old term "hydroa," first used by Bazin. The name does not conflict with those of herpes and pemphigus, yet reminds us of both. It has the further merit of being short, and of having been used by many of the leaders of the profession. This name is the one that Dr. G. H. Fox, of New York, has all along insisted upon as the proper name of this polymorphous disease. Herpes gestationis is but a form of hydroa. There are four varieties of hydroa simplex—namely, grave hydroa, benign hydroa, hydroa gravidarum, and hydroa puerorum. The last variety is now for the first time introduced to us by Unna, and an account of a case of the same is given. It occurs in boys, so far, exclusively; begins in early childhood; relapses with great frequency throughout childhood and boyhood; is worse in hot weather; consists almost entirely of a papular erythema; is more frequently painful than pruriginous; is very sharp in its attack; is preceded and accompanied by constitutional disturbance; gradually diminishes in extent, intensity, duration, and number of attacks toward the time of puberty, and disappears spontaneously, or is reduced to slight and infrequent relapses when man's estate is reached.

Soaps form the subject of an interesting brochure by Dr. P. J. Eichhoff, which is published as the first supplement to the Monatshefte für prakt. Dermatologie for this year. It is to medicinal soaps that special attention is given, but twenty-two of the sixty pages are devoted to the making of soap in general. We are cautioned against the use of most medicated soaps, as it is a common practice of manufacturers to make their soap improperly, either using bad materials or employing pernicious methods of making. Soap has a twofold mission, namely, cleansing the sound skin and, when medicated, conveying to the diseased skin substances which will have a curative action. A good, simple soap should act only mechanically upon the skin, forming an emulsion with the superficial cutaneous fat, and thus removing it and particles of foreign matter without in any way affecting the upper layers of the epidermis. Soap containing a free alkali is harmful to the skin, as it causes a swelling of the corneous cells and their too early exfoliation, as well as removes too much of the cutaneous fat. The best fats to use in preparing soap are those of mutton and beef. Cocoanut-oil is often used, but should not be, as too much caustic alkali has to be combined with it to form an efficient soap, and this causes "cracking" of the skin. A good toilet soap is neutral in reaction, and the best test for this is to allow a few drops of a hot solution of corrosive sublimate to fall upon it. If there is the faintest trace of free alkali it will show itself by a yellowish discoloration where the solution strikes it. Medicated soaps may be alkaline, neutral, or acid, according to what we wish to accomplish by their use, and all of them should contain a superfluity of fat to the amount of three or four per cent. They are to be used after four methods: 1. Simple washing. 2. The lather is to be allowed to remain on for a few minutes and then rubbed off with a dry cloth. 3. The lather is to be allowed to dry upon the skin. 4. The dry lather is to be covered with an impermeable covering of rubber cloth or tissue. The last method is most effective. As a basis of medicated soaps, the best and finest beef tallow should be used, a mixture of two parts soda and one part potash, and, for making it "over fatty," one part of olive-oil is to be used to each eight parts of tallow. The formula then is:

Best beef tallow		59·3 per cent.;
Olive-oil		7·4 " "
Soda lye,	at 38° Beaumé	22·2 " "
Potash lye,		11·1 " "

Some substances, such as resorcin, will not remain undecomposed in an alkaline or neutral soap, or in one slightly acid through the presence of a free fatty acid. By the addition of salicylic acid to the soap, resorcin can be held unchanged. To this end, to 94 parts of the soap 3 parts of resorcin and 3 parts of salicylic acid are added, forming *resorcin-salicylic-acid* soap. It is specially useful in diseases of the skin of parasitic origin which are marked by a hyperplasia of the epidermis, such as seborrhoic eczema, psoriasis, acne, and ichthyosis. In seborrhoic eczema this soap may be used as a simple toilet soap, or according to one of the other methods of using these soaps, depending upon the state of the disease. The fourth method of using these soaps is better than using plaster-muslins, as the soap is more penetrating than the plaster-mass. A *salicylic-acid-resorcin-sulphur* soap is composed of basic soap, 84 parts; salicylic acid, 3 parts; resorcin, 3 parts; and precipitated sulphur, 10 parts. This has proved useful in acne, rosacea, psoriasis, ichthyosis, ringworm, favus, and seborrhœal eczema. A *salicylic-acid-resorcin-sulphur-tar* soap is composed of basic soap, 79 parts; salicylic acid, 3 parts; resorcin, 3 parts; sulphur, 10 parts; and liquid tar, 5 parts. This soap can not be employed in any of the acutely inflammatory skin affections, but works well in parasitic diseases, squamous eczema, and psoriasis. In the latter disease it is as efficient as chrysarobin. A *quinine* soap is made by adding three per cent. of sulphate of quinine to the basic soap, and is prompt in overcoming chromophytosis when used morning and evening, the lather not being rubbed off. It acts efficiently in the intertrigo of children. A *hydroxylamine* soap is made of the same strength as the quinine soap, and gives excellent results in psoriasis, seborrhœal eczema, and ringworm of the beard. A five-per-cent. *iodoform* soap is commended for disinfecting the hands after using a bichloride solution, for cleansing and stimulating weak ulcers, and in the treatment of venereal ulcers and the secondary lesions of syphilis. A five-per-cent. *creoline* soap is recommended for local and general disinfection purposes, and for the cure of scabies, impetigo contagiosa, intertrigo, hyperidrosis, and bromidrosis. An *ergotine* soap of similar strength is indicated in the treatment of rosacea, frost-bite, varicose eczema, and the dilated vessels running over scars. An *iodine* soap is composed of basic soap, 95·5 parts; pure iodine, 3 parts; and iodide of potassium, 1·5 parts. This hastens the absorption of strumous swellings and lymphoma of the neck and face, and is actively curative of ringworm of the body and seborrhœal eczema, and helps greatly in psoriasis. The final member of this list of medicated soaps is a *salicylic-acid-creasote* soap, composed of basic soap, 93 parts; salicylic acid, 5 parts; and pure creasote, 2 parts. This aids in the treatment of lupus, and cures ringworm and the psoriatic form of seborrhœal eczema. The author concludes his rather enthusiastic disquisition upon his soaps and their uses by asking a further test of their virtues at the hands of the profession, maintaining that they are cheaper, more convenient and agreeable to use, and in many cases more efficient than plasters, salves, and pastes. In some cases in which the skin is abnormally wanting in fat, salves may do better service. But even here the soaps can be used with good result as alternates with the ointment, the ointment being worn at night and the soap employed by day. In all other cases soaps do best, as they penetrate more deeply, on account of their constitution and their affinity to the products and organic constituents of the skin.

Ulerythema Sycosiforme.—It is not long since Unna proposed the name "ulerythema" for diseases of the skin that led to the formation of cicatrices by a process of absorption of inflammatory infiltration, and without suppuration. Now (Monatshft. f. prakt. Dermat., 1889, ix, No. 3) he reports a case under the above-mentioned heading with the following description: The disease was located in the beard at first, but spread out upon the temples. It was of inflammatory nature and led to complete destruction of the hair follicles and papillæ, to atrophy of the surface epithelium, and to the formation of a superficial cicatrix. There were present superficial, clear vesicles; the diseased parts were sharply defined; the disease was chronic in its course. It resembled the more common form of sycosis, but differed from it in the absence of pustules and crusts; in the appearance of the roots of extracted hair, which in it did not have swollen root sheaths, and which were easily pulled out; in having a sharply defined border to the patches; in being marked by more erythema and œdema and by being more easily irritated; by affecting rather the interfollicular regions than the follicles themselves; and by producing complete atrophy of the skin and destruction of hair and follicles.

Proliferative Follicular Psorospermosis.—Under the title of *psorospermose folliculaire végétante*, Dr. J. Darier, of Paris, introduces to us (Ann. de derm. et de syph., 1889, x, 597) a disease of rare occurrence which has not been described as a separate disease, though it may have been included under the general group of sebaceous or corneous diseases. It affects the whole integument, though having preference for the scalp, the face, sternal region, flanks, and groins. It begins as a small papule surmounted by a blackish or grayish-brown crust, which is raised, hard, and dry, and adheres closely to the skin. It is indeed a true little horn incased in an infundibuliform depression by one conical or cylindrical extremity, of dirty-white color, of a semi-soft consistence, and a little greasy to the touch. The depression in which it lodges corresponds to the dilated orifice of a hair follicle. Where a number of these lesions have run together the skin is covered with a brownish or earthy-looking crust, more or less greasy to the touch; and when the hand is passed over the part it feels rough.

When the crust is scraped off, the skin is uneven and shows many depressions, but the epidermis is sound and there is no bleeding. At times the disease is yet more developed; ridges form in places with depressed summits which are crateriform and circumscribed by an annular border. At certain points the epidermis is wanting, and from the orifice of the follicles exudes sebaceous matter, pure or mixed with pus. Tumors, even, may form. The disease is due to the invasion of the skin by sporozooids, which are single-celled organisms that inhabit the epithelial tissue of vertebrates almost exclusively. They differ from gregarines by absence of movement, by intracellular habitat, and by solitary encystment and small number of spores in the cysts. Parasites of the same order probably cause molluscum contagiosum and Paget's disease of the nipple. They occur in the form of round bodies, generally encysted and contained in the epithelial cells, or of refractive granules accumulated into a button protruding from the orifice of the follicle.

Common Warts have also a micro-organism as their *fons et origo*, at least so says Kühnemann (Monatshft. f. prakt. Dermat., 1889, ix, 17), who describes the microphytes as exceedingly delicate, little rod-shaped bodies lying in the stratum dentatum between and in the cells, and in the lymph spaces—never longer than $1{\cdot}5\mu$, their proportion of thickness to length being about 1 to 6. Sometimes they are met with in the corneous layer, and, rarely, in the neighboring parts of the skin. They are less often found in old than in new warts. They are cultivable, but thus far their inoculability has not been proved.

Lichen Ruber and the various allied diseases that have been now asserted to be the same disease and now declared separate entities, have been studied by Török, who sums up his observations (Monatshft. f. prakt. Dermat., 1889, ix, No. 3) as follows: 1. Pityriasis rubra pilaris and lichen ruber acuminatus are different diseases. 2. Lichen ruber acuminatus and lichen ruber planus are related but not identical disease processes. 3. Lichen ruber acuminatus neuroticus (Unna) is a form of lichen ruber acuminatus (Hebra) marked by more acute initial symptoms and more pronounced neurotic manifestations.

An Infectious Skin Disease resembling Psoriasis is reported by Baaz, of Gratz (Berl. klin. Woch., 1889, No. 26). It made its appearance with constitutional symptoms, fever, rapid pulse, etc., which were followed in a few days by an eruption of disseminated, bright-red papules, which were somewhat raised above the skin and covered with a white scale, which, when scratched away, left a small blood drop. It was located upon the elbows, but was not confined to the extensor surfaces. The lesions increased slowly in size, spreading at the periphery and healing in the center. It did not appear on the lower half of the body, and yielded to chrysarobin. It began upon one child, spread to an older sister, then to a brother, the mother, and a female friend of the family visiting in the house. It also attacked two children who played with the little girl who was first taken sick.

Hydracetin in Psoriasis.—Oestreicher has found this remedy (Berl. klin. Woch., 1889, No. 28) of some slight service in psoriasis, but apt to give rise to so alarming symptoms of poisoning that it can not be commended.

Leprosy is now attracting more than usual attention, both in this country and in Europe. Two articles appear in the Lancet of August 31, 1889. One is a study of the disease in Palestine, by Dr. Sandreczki. He tells us that only the tubercular mutilating form, with more or less anæsthesia or analgesia, is met with there, and the number of lepers is about six hundred. They are compelled to live in the towns and in domiciles provided by the municipalities. In Jerusalem there is a large hospice for lepers, into which it is hoped all lepers will be gathered, and thus the disease eradicated. The author does not believe in the contagiousness of the disease, nor that the disease is spreading in Palestine. Heredity is not constant, it being not uncommon to have one generation escape entirely. At present leprosy does not attack the well-to-do in Palestine. It is developed by impure air, by stagnant and bad water, by rancid and salted oil or fat used for food, by eating decomposed olives and cheese and rotten or diseased meat. To these we must add bad hygienic surroundings and care of the skin, excess in venery, chronic malarial fever, and variability of climate. It is indigenous to certain regions and develops spontaneously. Civilization and hygiene are the only remedies for the disease.

The Treatment of Favus.—Schuster, of Aix-la-Chapelle, recommends (Monatshft. f. prakt. Dermat., 1889, ix, p. 1) for this disease, as well as for ringworm, the use of the vapor of sulphurous acid. The idea is not a new one with him, but is brought again to the notice of the profession, as he has found it useful after newer procedures have proved themselves useless. His method of using the vapor is as follows: He has a cylinder of card-board made which is open at both ends, the lower end being large enough to fit snugly over the head at the forehead, and its upper end furnished with a cover. The whole is fifty centimetres, or about twenty inches, long. Across the lower third of the cylinder a rest for a porcelain dish is made by a series of stout threads passed through both walls of the cylinder, so as to form a spider-web arrangement, the holes through which the threads pass being hermetically closed. When the cylinder is placed in position on the head, a cloth or rubber ring is placed around the lower end from forehead to occiput. Then the saucer with burning sulphur is placed upon the support and the cover is placed upon the top of the cylinder. The apparatus is left on for half an hour, and the treatment is repeated every day. Before using it, the hair is to be cut short, all crusts removed, and the head washed with soap and water. After six to eight weeks a cure is said to be effected.

The Treatment of Ringworm most recently advocated by Vidal (Jour. de méd. de Paris, 1889, June, p. 250) is to wash the head first of all with oil of turpentine, and to follow this with tincture of iodine, the applications being made on successive days to small areas. Then comes the use of vaseline twice a day and the constant wearing of a rubber cap.

Quinine in Severe Cases of Syphilis.—Dymnicki reports (Gazeta Lekarska, abstracted in Monatshft. f. prakt. Dermat., 1889, ix, 39) excellent results in a large number of cases of severe syphilis by the combination of a vigorous inunction plan of treatment and the exhibition of fifteen to thirty grains of quinine daily. Cases that had failed to respond to inunctions alone yielded readily to the combined treatment. The quinine seemed to prevent stomatitis, as shown by the appearance of the latter upon the suspension of the former.

Mercurial Baths and other Local Plans of Treatment in Syphilis.—Ehrmann, of Vienna, contributes two papers upon this subject to the Centralblatt für die gesammte Therapie—one in May and one in July of this year. Mercurial baths are not of use in all forms of syphilis, and not to be relied on for the sole treatment of the disease. Thus they are useless in the macular form of syphilis, but of good service in papulo-pustular, pustular, and ulcerative syphilides, and in degeneration of tubercles and gummas, and in moist papules. In these cases it answers the purpose of local treatment to the local lesions, and is very useful, especially in broken-down subjects who, while prone to these disorders, can not undergo a proper and energetic mercurial course of treatment. As soon as possible other plans of administering mercury must be begun for a cure. The bath should be administered in wooden bath-tubs or in porcelain. To the warm bath must be added a pint of a perfect solution of bichloride of mercury of about two-per-cent. strength. It is best to use soft or boiled water for the bath. In specially hard water it is well to add some thirty grains more of the bichloride to the bath, or a quantity of ordinary salt. The patient is to stay in the bath for an hour or an hour and a half, and then to remain wrapped up for another hour or two. After the process is over, the ulcers must be dressed with equal parts of mercurial and liquefied diachylon plaster to which enough olive-oil has been added to make a soft ointment. Or iodoform may be used; or, if the ulcers are granulating nicely, a three-per-cent. salicylated soap plaster may be employed.

Partial sublimate baths are also useful. The sitz bath, hip bath, is useful in affections of the genitals and anal region, especially in condylomata lata and indurative œdema of the initial lesion. A solution of thirty to forty-five grains of the bichloride to the bath is used; from one to two a day is taken of about one to one and a half hour duration, some indifferent powder being used upon the parts in the intervals. Hand and foot baths are to be used in "psoriasis palmaris et plantaris," onychia syphilitica, and condylomata lata between the toes. The strength of these baths should be about fifteen to thirty grains to the bath; the duration, one hour; the frequency, twice daily.

For washing out the nose and mouth, a solution of iodine and iodide of potassium is better than one of mercury. A solution of mercury, 1 to 1,000 or 2,000, is the best application for washing out the preputial sac when some disease is under the prepuce preventing its retraction. It is best to throw the solution through a rubber tube passed down to the corona.

Local treatment of the initial lesion by extirpation is of uncertain value. If the sclerosis is merely excoriated it may be covered with the mercurial ointment already given. In large lesions that are actively secreting, a solution of bichloride (1 to 1,000), or dusting with calomel, either pure or mixed with talc or starch, will be appropriate. For scleroses contained in the preputial sac, washing out with the already given solution will be good. Chancres of the urethra may be treated by inserting into the urethra pieces of the mercurial plaster. In pustular syphilides of the head and face mercurial ointments or oils should be used to remove the crusts, and continued afterward unless a simple solution of bichloride (1 to 1,000) is used constantly on compresses. Either the red or white precipitate of mercury may be used. Touching with nitrate-of-silver stick the pustules that tend to rapid ulceration is the best way of checking their course. Mucous patches should be daily painted with a one-to-two-per-cent. solution of bichloride of mercury, or less often with nitrate of silver. By touching the place where the silver has been applied with a fifty-per-cent. solution of iodide of potassium, the black color that otherwise would result may be avoided. For condylomata about the anus, genito-crural region, and ears, we may dust on calomel; on the scrotum use gray plaster. For lesions of the palms and soles, besides the mercurial baths, we may use once daily a one-to-three-per-cent. sublimate collodion. This may also be used in limited regions of the face. In gummatous lesions of the skin and subcutaneous tissues, the tendons, muscles, and periosteum, painting with iodine will do better service than will mercurial plaster. Weaker strengths render better service than the more concentrated, and iodide of glycerin, painted on three times a day and covered with gutta-percha tissue for one or two hours, renders good service. In rapidly breaking-down gummas our best remedy is the nitrate-of-silver stick.

The Treatment of Gonorrhœal Orchitis by Nitrate of Silver.—Debout (Ann. des malad. des org. genito-urin., Dec., 1888) professes to cure gonorrhœal epididymitis in from four to six days by applications of one-per-cent. nitrate-of-silver dressings.

The Treatment of Epididymitis.—Langlebert (Annal. des mal. des org. genito-urin., 1889, No. 4) recommends the following treatment, which was first employed by his father fifteen years ago:

The scrotum is enveloped in a thick layer of cotton, over which is placed a sheet of rubber tissue, and then a well-fitting suspensory is applied.

The extremely good results which the writer claims are due, he says, to the constant heat and profuse local sweating caused by the dressing, and at the same time a permanent immobilization and slight compression are secured.

Vulvo-vaginal Inflammation in Children.—Ollivier tries to prove (Centralblatt für Chirurgie, No. 25, 1889) that the disease is to be regarded as a contagious disease. In one of his wards in the children's hospital, when the children were all free from elytritis, two were admitted to be treated for this disease. After three weeks no less than fifteen other children were attacked. A thorough examination showed that an inoculation from child to child was perfectly possible, as the nurses did not carry out the necessary rules of cleanliness. They washed healthy children with the same sponge which had been used for diseased ones, and neglected to thoroughly wash the chambers every time they had been used. After order had been restored, and cotton tampons substituted for sponges and the infected children prevented from using the same vessels as the healthy ones, the further spread of the disease was prevented. F. Spaeth (Münch. medicin. Woch., 1889, No. 22) has made a study of this disease as occurring in the clinic of Dr. Prochownick in Hamburg, where there were twenty-one children between the ages of three and eleven suffering from vaginal discharges. In fourteen cases gonococci were found in the secretions of the vulva and vagina, and in the other cases only streptococci and staphylococci were found. In the latter cases the urethra was not involved in the inflammatory process, while in the former cases the urethra, vulva, and vagina were inflamed. In eleven of these fourteen cases, all belonging to the lower classes of the population, gonorrhœa of the mother was found; in two cases it was found in the father; in one case rape was the cause of the infection; and in one case the infection was acquired in the hospital. The treatment consisted of washing out the vagina with a warm bichloride solution and in the introduction into the urethra and vagina of iodoform or thallin suppositories. This treatment cured eight patients and improved five after being carried out for an average of three months and a half. Of the seven children whose vaginal secretion was free from gonococci and where urethritis was absent, six were cured. Dr. Spaeth thinks all cases in children, with involvement of the urethra, are of a gonorrhœal origin.

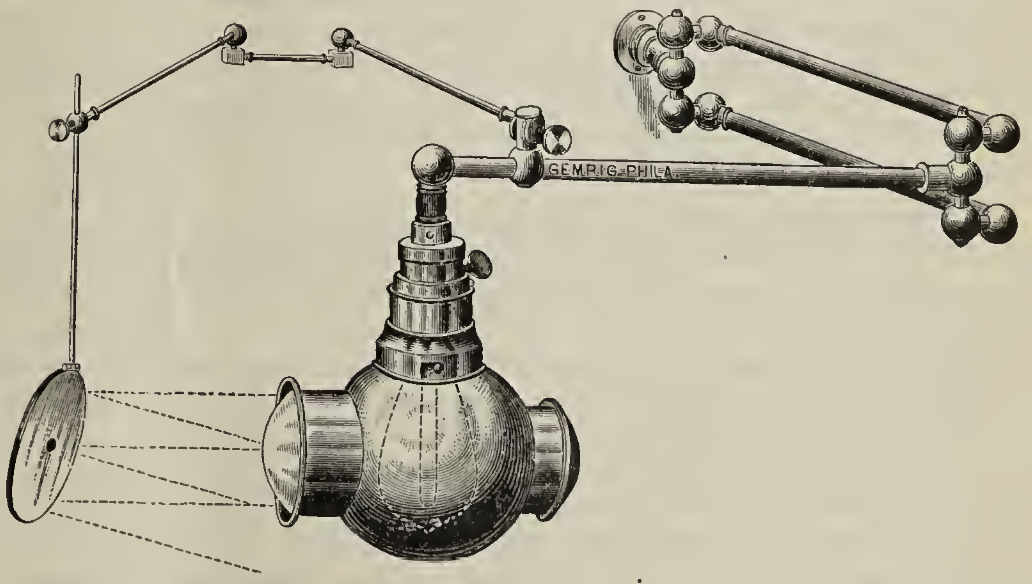
Swabbing out of the Urethra for Gonorrhœa.—J. Huguet (Annal. des mal. genito-urin., 1889, No. 5) recommends in cases of gonorrhœa the brushing or swabbing out of the anterior part of the urethra with a swab or a hair pencil. By this means, he says, the superficial layer of the urethral epithelium which contains the gonococci will be destroyed, and an immediate injection of 1-to-10,000 bichloride can act directly as an antiparasitic. For the operation local cocaine anæsthesia is used. The reaction is slight. There is a little dysuria on the day of operation.

New Inventions, etc.

A NEW FORM OF LAMP ATTACHMENT FOR RHINOSCOPIC PURPOSES.

By ANDREW T. VEEDER, M. D.,
SCHENECTADY, N. Y.

Having used the Seiler bracket with a better form of lamp than McKenzie's concentrator, and with the Welsbach incandescent gas-burner, which gives a far brighter and whiter light than the Argand burner, with less than half the consumption of gas, I found there was one convenience yet lacking—viz., some form of attachment of the lamp that would place all obstructions out of the way of the left hand of the operator; and so devised the attachment shown in the cut, which I think has positive advantages in more ways than one, not only giving the left hand freedom, but forming a much neater and more compact instrument. It will be seen that the attachment of the mirror-bar is also out of the way, and that the mirror-rod is much longer, which has some advantages. The lamp, bracket, and attachments were made for me by J. H. Gemrig & Son, of Philadelphia, and are perfect and beautiful in every way. I use a twenty-five-candle-power incandescent electric lamp, which enables me to see the deeper parts of the nose easily, giving daylight within the nasal cavity everywhere. It is better to have the lamp made round instead of egg-shaped, and the incandescent loop also round and not larger than a silver dollar, as the light is then focused more perfectly.



Miscellany.

The New Contagious Diseases Law.—The following bill, having passed both Houses of Congress, was signed by the President on March 28th:

An Act to prevent the introduction of contagious diseases from one State to another and for the punishment of certain offenses.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That whenever it shall be made to appear to the satisfaction of the President that cholera, yellow fever, small-pox, or plague exists in any State or Territory, or in the District of Columbia, and that there is danger of the spread of such disease into other States, Territories, or the District of Columbia, he is hereby authorized to cause the Secretary of the Treasury to promulgate such rules and regulations as in his judgment may be necessary to prevent the spread of such disease from one State or Territory into another, or from any State or Territory into the District of Columbia, or from the District of Columbia into any State or Territory, and to employ such inspectors and other persons as may be necessary to execute such regulations to prevent the spread of such disease. The said rules and regulations shall be prepared by the Supervising Surgeon-General of the Marine-Hospital Service, under the direction of the Secretary of the Treasury. And any person who shall willfully violate any rule or regulation so made and promulgated shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not more than five hundred dollars, or imprisonment for not more than two years, or both, in the discretion of the court.

Sec. 2. That any officer, or person acting as an officer, or agent of the United States at any quarantine station, or other person employed to aid in preventing the spread of such disease, who shall willfully violate any of the quarantine laws of the United States, or any of the rules and regulations made and promulgated by the Secretary of the Treasury as provided for in Sec. 1 of this act, or any lawful order of his superior officer or officers, shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not more than three hundred dollars, or imprisonment for not more than one year, or both, in the discretion of the court.

Sec. 3. That when any common carrier or officer, agent, or employee of any common carrier shall willfully violate any of the quarantine laws of the United States, or the rules and regulations made and promulgated as provided for in Sec. 1 of this act, such common carrier, officer, agent, or employee shall be deemed guilty of a misdemeanor, and shall, on conviction, be punished by a fine of not more than five hundred dollars, or imprisonment for not more than two years, or both, in the discretion of the court.

The Association of American Physicians.—The preliminary programme of the fifth annual meeting, to be held at the Army Medical Museum Building, Washington, D. C., on the 13th, 14th, and 15th of May, 1890, includes:

The President's Inaugural Address, by Dr. Samuel C. Busey, of Washington; Consideration of the Revised Constitution; a discussion on Disturbances of Sleep (*referee*, Dr. S. Weir Mitchell, of Philadelphia; *co-referee*, Dr. Charles F. Folsom, of Boston); a discussion on Methods of Diagnosis in Diseases of the Stomach (*referee*, Dr. Francis P. Kinnicutt, of New York; *co-referee*, Dr. F. C. Shattuck, of Boston); Inflammations of the Appendix and Cæcum and the Duty of the Physician regarding them, by Dr. Norman Bridge, of Chicago; Anæsthetic and Non-anæsthetic Hysteria, by Dr. Charles L. Dana, of New York; Seizures Characterized by Shock and Loss of Consciousness, by Dr. Israel T. Dana, of Portland; The Diathetic Causes of Renal Inadequacy, by Dr. I. N. Danforth, of Chicago; Antisepsis in Midwifery, by Dr. William T. Lusk, of New York; Varicose Aneurysm of the Arch of the Aorta, by Dr. William Pepper and Dr. J. P. C. Griffith, of Philadelphia; Natural History of Typhoid Fever, by Dr. James E. Reeves, of Chattanooga; What can and should be done to Limit the Prevalence of Tuberculosis in Man? by Dr. Edward O. Shakespeare, of Philadelphia; Migraine, by Dr. Wharton Sinkler, of Philadelphia; Ætiology of Pleurisy, especially in its Relation to Tuberculosis, by Dr. A. A. Smith, of New York; Report of Cases of Angeio-neurotic Œdema, by Dr. Samuel B. Ward, of Albany; Notes of a Case of Acromegaly, by Dr. J. E. Graham, of Toronto; A Case of Acute Pancreatitis, by Dr. R. H. Fitz, of Boston; and Demonstration of Pathological Specimens, by Dr. W. T. Councilman, of Baltimore.

The New York Academy of Medicine.—At the next meeting of the Section in Pædiatrics, on Thursday evening, the 10th inst., Dr. F. M. Crandall will report a case of Preputial Calculus; Dr. L. E. Holt will report Two Fatal Cases of Acute Primary Pneumonia in Infants, without Fever; and Dr. A. Jacobi will open a discussion on The Use of Spirits and Malted Drinks in Nursing Women.

At the next meeting of the Section in Neurology, on Friday evening, the 11th inst., Dr. Mary Putnam Jacobi will report a case of Hysterical Fever.

ANSWERS TO CORRESPONDENTS.

No. 313.—There is such a lady in the town mentioned, and her reputation as a general practitioner is exceedingly good.

No. 314.—The general opinion is that there is "nothing in it." We do not know the degree of temperature employed.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

THE CLINICAL APPLICATIONS OF DRUGS.

By JOHN AULDE, M. D.,

DEMONSTRATOR OF CLINICAL MEDICINE, AND LATELY DEMONSTRATOR OF PHYSICAL DIAGNOSIS, IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

Lecture I.

Delivered at the Medico-chirurgical College of Philadelphia, February 27, 1890.

Reported by WILLIAM BLAIR STEWART.

This afternoon it is my purpose to call your attention especially to some of the clinical applications of drugs, particularly those few drugs which you will find it convenient to carry in your pocket-case. In the course of a few short weeks quite a number of you will be the possessors of a diploma, and, having been so fortunate as to secure this prize after three years of hard labor, the next step in the course of your lives will be that of adopting a location in some city, town, or village, and in due course of time you will be called upon by those persons who think they require the services of a physician. An experience of eight years has convinced me that much of the success of a physician depends upon his ability and skill in meeting emergencies. The experienced surgeon is he who goes prepared to treat all classes of injuries; bandages, instruments, antiseptic solutions, and other paraphernalia necessary for setting broken limbs, making amputations, applying soothing lotions, and other necessaries for meeting the details likely to arise in such cases. So it is with the physician; he must be prepared for attending night calls, and for the emergencies which, as a physician, fall to his lot.

The pocket-case which I show you contains no fewer than twelve small phials, each holding two drachms, or two teaspoonfuls, and during the past year I have added to the list a thirteenth, which at certain seasons of the year is probably more important than any of the others. The contents of these different phials will be named in the order of their occurrence, and I shall attempt in a brief but cursory manner to indicate some of the uses to which these different remedies may be put: Assayed fluid extract of gelsemium; assayed fluid extract of cannabis indica; calcium sulphide, tablet triturates, each containing one tenth of a grain; rhus toxicodendron, solution of the tincture, 1 to 10 (made from fresh leaves); assayed fluid extract of aconite; atropine sulphate, tablet triturates, each containing one two hundredth of a grain; strophanthus tincture; hydrargyri chloridum mite (calomel), tablet triturates, each one tenth of a grain; assayed fluid extract of nux vomica; morphine sulphate, tablet triturates, each containing one fiftieth of a grain; "compound alterative pill" (each pill contains powdered opium, one eighth of a grain; powdered ipecac, one eighth of a grain; and massa hydrargyri, half a grain); nitroglycerin, a one-per-cent. solution; arsenite of copper, tablet triturates, each containing one one hundredth of a grain.

Gelsemium is one of the most valuable drugs we possess in all cases attended with high motor excitement, with increased activity of the circulation and elevation of the temperature. As an antipyretic in the early stages of inflammatory disorders its value can not be overrated, and where there may be special indications, such as local complications like tonsillitis, the addition of aconite will prove of great advantage in overcoming the morbid processes. A point to be borne in mind is the fact that gelsemium produces double vision, and you may find, after having ordered a dose of five drops of the assayed fluid extract, that your patient when next visited sees two doctors instead of one. This complication may be avoided, and the benefits derived from the use of the drug at the same time, by following the suggestion I am about to make. Depending upon the age and physical condition of the patient, you will use from two to ten drops of the fluid extract, to which water, from four to six ounces, is added; of this solution the patient is instructed to take a teaspoonful every ten minutes for the first hour, and hourly thereafter the same dose. After a period ranging from one to three hours the remedy can be discontinued, or, if needed, it can be continued at more frequent intervals.

In active inflammation of the respiratory apparatus, as in beginning pneumonia, with a temperature of 103° to 104° F., a pulse of 120 to 140, where the skin is dry and hot, and the intestinal secretions are arrested, gelsemium will show most prompt and favorable influence upon the progress of the disease. The headache is reduced, the pulse and temperature are rapidly lowered, and in a comparatively short time the patient is bathed in a profuse perspiration. In these cases there can be no mistake regarding the value of aconite as an adjuvant; five drops of the assayed fluid extract may be added to the foregoing solution without making any change in the dosage. The same combination is of service in the treatment of tonsillitis; the activity of the heart is subdued, the tendency to congestion averted, and those who once try this method of aborting attacks of pneumonia and tonsillitis will never be disposed to regret it; but, of course, it is available only in the early stages of the attack, and when unsuccessful after the first twenty-four or forty-eight hours, the plan must be discontinued.

You will also find gelsemium of great value in the treatment of those cases of neuralgia connected with dysmenorrhœa, which are often so extremely persistent. There are headache and pain in the back, and, along with the attendant uterine congestion of the first two days of the menstrual period, they may be so threatening that spasms may be anticipated; or, on the other hand, the young woman may practically lose control of her mental faculties, and remain for days in a dazed condition. While gelsemium would not be the suitable drug in the later stages of these attacks, there is no doubt that it is far superior to the bromides, which we are so often tempted to use. The effects produced by the action of gelsemium combined with aconite are so prompt—only a few hours being required to bring the morbid process under control—that it seems unwise and undesirable to use remedies which produce effects such as we notice from the use of the bromides. Bear in mind, however, that this is merely the treatment of the emergency, and that the real condition must be discovered and, if possible, the cause removed. Do not be misled into the error of assuming that because there is dysmenorrhœa there must be organic disease or displacement of the uterus. Many of the most stubborn of these cases readily yield to treatment directed to the condition of the digestive apparatus, to which should be added proper hygienic measures. Too much stress can not be laid upon the need for good fresh air and suitable exercise, a nutritious diet, and a healthy condition of the alimentary canal.

Cannabis Indica.—You will find occasionally that certain cases of dysmenorrhœa are not benefited by the use of gelsemium, or that the results are less satisfactory than in other cases, and probably you will observe that such are benefited more by the exhibition of cannabis indica. The class of cases in which cannabis is indicated may be generalized as those in which there is lacking one important element—viz., the rapid pulse. In some instances, where the pulse is moderately rapid and yet not sufficiently so to demand the use of aconite and gelsemium as just outlined, cannabis indica forms a most excellent substitute.

Now, it should be remarked that cannabis indica is a remarkably unsatisfactory drug as generally found in the shops, and it becomes an item of great importance to secure a reliable preparation. For this reason I have noted that the fluid extract should be assayed—*i. e.*, it should be made to conform to a recognized standard, a point which will not be discussed in this connection, as it has already been referred to in the other lectures of this course. Furthermore, you must recollect that cannabis contains a resin, and unless you understand how to manipulate the product, the results of your attempts to prepare a solution will be unsatisfactory. The exact quantity to be used, say five drops, should be placed in a vessel, a glass or a teacup, and a measured quantity of water, say four ounces, quickly poured upon it, when the solution or mixture is ready for use. The dose will be one teaspoonful every ten minutes for an hour, then hourly thereafter or less frequently according to the condition of the patient and the persistence of the disease.

This preparation, when the cannabis is of good quality, is almost a specific in the treatment of dysmenorrhœa such as that described. It is probably equally valuable in numerous cases of supra-orbital neuralgia, especially those which are so often due to an impoverished condition of the blood. Care must be taken, however, in its administration, as one of my patients who was satisfied with the results of the first few doses concluded that it ought to be taken more frequently, and in a short time she experienced a sensation as if she was walking on the ceiling like a fly. While the drug is most wonderful in affording temporary relief, we must not forget that supra-orbital neuralgia is often but the local manifestation of a deranged condition of the liver, and, when such is the case, attention must be given to that organ.

Calcium Sulphide.—Let me now call your special attention to the use of calcium sulphide in all cases in which suppuration is threatened, or even where it has begun. Some of these may be briefly referred to with a view to impress their features more strongly upon your memory. Take an ordinary case of toothache, which has arisen from exposure or cold, and is probably dependent upon a diseased condition of the root of the tooth; pain indicates a disposition to the formation of an abscess. A similar diseased condition may affect the ear, and, as both affections are not readily amenable to surgical measures, calcium sulphide steps forward as a barrier to resist the further progress of the disease. The tendency to suppuration is arrested, and within twenty-four to forty-eight hours what promised to be an exceedingly troublesome malady has been thoroughly checked.

The method of administration consists in giving from one tenth to one twentieth of a grain of calcium sulphide every hour or two until the pain has been relieved. Some years ago, when first beginning to use this drug, I was somewhat suspicious of the size of the dose as recommended by Ringer, of London, and gave as much as half a grain, but at less frequent intervals than I now instruct you to follow, but my experience was not so favorable as with the method now suggested. The small dose must be given at short intervals until such time as the system has been brought under its influence, when the intervals may be lengthened, and it will be found that this simple drug will be quite sufficient to prevent the formation of an abscess at the root of the tooth, and will arrest the formation of pus in the case of earache. Ordinarily we should think of morphine or some other anodyne to relieve the pain, but by the judicious use of the calcium we not only relieve the pain, but at the same time the morbid process is arrested.

The same principles will govern your practice in the treatment of carbuncle, which partakes of the general character of a boil, except that the carbuncle involves a larger area, and is more deeply situated than the boil. Now and then you will meet with a carbuncle in its incipiency, where the history of the patient points to an unhealthy condition of the system owing to the development of boils. A case is recalled in which this principle is well illustrated: A gentleman, aged thirty-five years, called upon me complaining of a severe pain and swelling on the inner side of the thigh. This man had been through an unpleasant experience with boils some months previous to his present difficulty, and taking the history of this malady, the deep-seated origin, and formidable character of the swelling, I was of the opinion that the indications were sufficient to consider it a carbuncle. It is in such cases as these that we desire to avoid suppuration; while to our detriment financially, such a consummation is a distinct professional victory, although those who can not believe that the plan has any virtues will be so unkind as to say that carbuncle can not be relieved in that way. The patient in question was relieved in the course of forty-eight hours, and had no further indications of the disease.

The use of calcium sulphide, however, is not confined to the treatment of toothache, earache, and carbuncles, but includes quite a range, which I shall but hint at in this lecture in the briefest possible manner. Calcium sulphide should be used in all cases where suppuration is threatened, as in boils, abscesses, and ovarian pain, as well as in the case of morbid discharges, such as leucorrhœa, chronic metritis, bronchorrhœa, and rhinitis. Where suppuration has begun and there is an accumulation of pus, this of course must be removed, as it will not be absorbed. In these cases the calcium is indicated, from the fact that it lessens considerably the breaking down of tissue, and thus hastens recovery. It is often of marked benefit in the treatment of ovarian neuralgia, even after it has continued for weeks or months. Calcium may be used with great advantage in the treatment of felon, and, when the full value of the drug is appreciated by the general practitioner, we shall hear less of poultices than during former years. Attention should be given to diet, and the hand should be kept at rest, but, as a rule, the use of poultices must be avoided if we expect to get the best results. To allay the activity of the circulation, vascular sedatives can be used, such as veratrum, aconite, or gelsemium, and, when seen early, many of these unfortunate cases may be brought to a termination without the formation of pus. When pus is present in the case of felon, carbuncle, abscess, or boil, as shown by fluctuation, it must be evacuated, and we then proceed to administer calcium in the manner indicated, which has the effect of lessening pus-formation and favoring granulation.

Suppose, for example, we have to deal with a case of carbuncle involving a portion of a man's back as large as a tea-saucer, covered with a yellow, greenish, and tenacious material; in addition to the internal exhibition of the calcium, antiseptic measures must be adopted. If you wish to succeed in cases of this kind, you must persist in the treatment for several days, as it would be impossible to expect any method, however efficient, to show good results within a few hours; and, having once met and followed up one of these cases, it will not only give you a reputation, but will afford you a satisfaction which will be worth all that your medical education has cost. You will appreciate the value of my suggestions when you get into practice and meet with persons who are still living, but who can point with pride (?) to the thumb or finger which has been partially destroyed by the injudicious use of poultices, because you will recall the fact that, with appropriate treatment, you can avoid the repetition of these unfortunate results.

Belladonna.—The subject of belladonna is a very interesting one, although I fear that the drug itself is used more frequently than is good for our patients. You can understand how attractive it becomes when we study its action upon the nervous system. Thus, while it acts as a delirifacient, stimulating the activity of the cerebrum, it annuls, in part at least, the activity of the terminal filaments of the motor nerves. A person who has been taking small and frequently repeated doses of belladonna will present great mental activity, but at the same time complains of excessive languor, and does not care to go about much. It therefore becomes a remedy of great value in the treatment of affections characterized by spasm. In the case of injuries, spasm, or pain and stiffness of muscles, as in the case of torticollis (wryneck), belladonna acts as a paralyzer of the terminal filaments of the motor nerves and thus allays the pain. This drug is also useful in all low conditions of the system—such as pneumonia, scarlet fever, and typhoid fever—in which we have to contend with a subnormal temperature, as it is a remedy which shows marked influence in elevating the temperature; but for this purpose it must be used in small doses, as we desire to avoid the narcotic effects. Atropine, the active principle of the plant, is a heart stimulant, and may be used with morphine, although the two drugs are antagonistic to each other. Atropine and morphine not only stimulate the heart, but even in small doses they do produce a limited amount of narcosis; but the special characters of this I will not stop to discuss.

In the case of a sore throat from cold or exposure, where the mucous membrane presents a raw-meat-like appearance, these tablets of atropine will prove of great service. A single tablet, containing one two hundredth of a grain, is dissolved in about four ounces of water, and of this solution the patient is directed to take a teaspoonful every ten minutes for an hour, then at intervals of an hour thereafter. We secure both the local and the constitutional effects of the drug, but no considerable amount of dryness of the fauces is set up, and the consequence is that, after a good night's rest, the throat trouble disappears. You will not infrequently meet with anæmic women and young girls who suffer from chronic bronchitis, and who say they take a fresh cold on top of the old one, and, as a result, they often lose their voice for several days, or even a week. This accident is due to the congestion of the vocal cords, which in some respects are like the strings of a violin; if these are placed in water, they become changed in character and lose their tone. So it is with the unhealthy condition of the vocal cords; they are constantly bathed in an abnormal secretion. The secretion is not only excessive, but, being a local manifestation of a general condition, the secretion carries with it a certain or, I should say, an uncertain amount of poison in the nature of an excretion. Here belladonna paralyzes the terminal filaments of the motor nerves, while at the same time obtunding the sensitiveness of the sensory nerves; dryness of the throat follows, and, if the use of the small doses, as indicated, is persisted in for a short time, you will find that the disability promptly disappears. Sometimes in the course of a single night a patient's voice will be recovered, although it may have been absent for weeks.

Rhus Toxicodendron.—The other day a young woman, apparently in good health, called upon me suffering from excruciating pain in the ball of the foot. She had been subject to this pain for some time—several weeks—but had not experienced as much lameness at first as was the case later on, and there was no history of pain in any of the joints. She thought possibly her trouble might have been due to cold, although she was uncertain in this matter. Having seen quite a number of such cases, I entertained the idea that it might be the local manifestation of a rheumatic element, and accordingly prescribed for her half-drop doses of rhus toxicodendron made from the fresh leaves in the form of tincture. The solution was prepared by adding to an ounce and a half of water six drops of the tincture of rhus, dissolved in a few drops of diluted alcohol. Of this solution the patient took a teaspoonful three times daily, although there was no need for the continuance of the medicine after the first dose, when the pain entirely disappeared. On the following day the patient was as well as ever. A point to be noted in this connection is, that this patient has suffered from time to time for the past five years from eczema affecting the roots of the nails, and no sooner had one finger healed than another was affected. The use of the rhus showed such good results in the first instance that it has been continued, and with most happy effect. The eruption has shown no further disposition to reappear under the most trying circumstances. In explanation I may mention that these troubles were associated with the use of the hands in hot and cold water, such as results from being engaged in washing clothes, and other household duties.

Dr. Carpenter, of Leavenworth, Kansas, in a late issue of one of the medical journals, reports the case of an elderly lady afflicted with rheumatism to whom he had administered all the approved drugs, but failed to relieve the pain and stiffness in one shoulder. Wishing to test the virtues of rhus, which I had so highly recommended, he began by administering to this patient one drop of a dilution of the tincture prepared in the strength of one part to sixteen. He was much surprised to learn that the first dose relieved the pain, and, at the time of his report, the patient had met with no relapse.

Of course the results of treatment with this drug are not always so brilliant, but often, I can assure you, it produces the most wonderful results. You will find patients who have pain in the shoulder, the knee, the ankle joint, or the ball of the foot, or they may be sufferers from sciatica, varicose veins, hæmorrhoids, or intercostal neuralgia; after having experimented with other drugs, do not forget that in such cases rhus toxicodendron is curative. These patients, it must be borne in mind, ought to be instructed in regard to diet, clothing, etc., and that they should avoid undue exposure.

Dr. George Kirkpatrick, of La Harpe, Ill., wrote me some time ago relating his experience with this drug. He has used it almost exclusively in the treatment of skin diseases, and believes it to be especially indicated in all classes of scaly eruptions. His communication also covers the history of an accident which may be of interest to you. He took by mistake a good swallow of the tincture, and, in order to counteract the effect of the poison, large doses of olive-oil were administered, and along with it about ten grains of carbonate of sodium. No immediate unpleasant effects were observed until the second day thereafter, when it was found that there was complete desquamation of the cuticle, and since that time he is proof against the poison of the plant. This account is a most interesting one, and may be of service to us in the future in extending the usefulness of the drug, but to-day it will be impossible to go further into the study of the matter.

Trapping Tapeworms.—"One of the queerest of all queer inventions was patented by a physician. 'It,' said the patent agent, 'was an apparatus for removing a tapeworm from the human stomach.' It consisted of a silver trap, so arranged as to be sprung like a mouse-trap by pulling on the bait, and of such form as to be easily swallowed. The patient was to fast several days, until the worm was ravenously hungry, then swallow the trap, which was attached to a silk cord and baited with cheese. The worm, taking the bait, was to be caught by the neck and easily withdrawn through the patient's mouth. The patent recommends setting the trap again if the first attempt is not successful. The patentee asserted that he had used the device successfully in his practice."—*British and Colonial Druggist.*

Original Communications.

SOME OBSERVATIONS ON STRICTURE OF THE MALE URETHRA.*

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Perhaps no subject in medicine has been so much overwritten as the diseases of the urethra. The medical journals fairly teem with its literature, contributed by all grades of medical men, from the benighted practitioner who invariably cures gonorrhœa in two days, to the broad-minded specialist who is willing to admit that in this line of work there is yet much to be learned, and that the progress made has not kept pace with that of kindred branches of medicine.

A review of the past shows a lack of advancement that is certainly discouraging, and leads us to inquire why this should be so.

I think that two reasons may be given: First, the urethra is a canal obscured from our view; our facilities for examining it during life have been imperfect, and our opportunities for examining it after death have been neglected. Second, the failure of the profession at large to apply to the treatment of the urethra the same sound reasoning, based on a knowledge of pathology, which they apply to the treatment of other diseases. The practitioner will invariably set the inflamed joint or muscle at rest; he prohibits talking in laryngitis; he prescribes opium to quiet the inflamed intestine, but he is less ready to curb his desire to meddle with the inflamed urethra. He knows that an inflammation anywhere else should be left alone and in peace, but in the treatment of the urethra such principles rarely occur to him, and, as a result, in no other place is there so much meddlesome surgery, so much useless pain inflicted, and, I may add, such unsatisfactory results.

The temerity displayed by some in the treatment of urethral diseases is astonishing; they may not pluck up courage to open an abscess or amputate a finger, but where is the man who will not boldly thrust an instrument into the urethra? And the less he understands about its structure and treatment, the greater his boldness and the rasher his manipulations. The brutal unsurgical use of instruments in incompetent hands must have appealed to every surgeon, even of limited experience. In no other part is so much gentleness and delicacy of manipulation required as in the urethra, and in no other part will rudeness be attended with such disastrous results.

The subject of urethral diseases is too extensive for discussion in a brief article like this, and I shall therefore confine my remarks to some observations in connection with urethral stricture. Perhaps the best definition of urethral stricture yet given is that of Sir Charles Bell, who, recognizing the urethra as a closed canal, except during urination, defines stricture as "any loss of dilatability of the urethra." This brings up the question, What may we consider as the normal dilatability of the urethra, or, in other words, what is the shape of the urethral canal under dilatation?

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* Read before the Pittsburgh Academy of the Medical Sciences, January 2, 1890.

Under normal circumstances the urethra is dilated during every act of urination, but the amount of dilatation is slight compared with what the urethra is capable of, as any one will admit who will observe the size of a healthy individual's stream of urine, and then compare that with the size of an instrument that will fill his urethra comfortably. It may be said that the healthy urethra is never distended by the stream of urine, even up to the size of a sound capable of slipping through the urethra with its own weight. Few facts are better established than that the dilatability of the urethra varies in different portions of its course, and I have had reason to observe that the relative dilatability of different urethræ is not always uniform. By a mechanical contrivance, which I have called a urethrograph, I have made a series of observations of the healthy urethra, with a view to ascertain the relative dilatability of its various portions under varying degrees of distension, and, as already mentioned, all urethræ do not dilate alike, so that only an approximate standard can be given of its proper dilatability.

In order to illustrate this subject I have selected Fig. 1, consisting of four diagrams, taken with the urethrograph from the same urethra, each diagram from below upward representing the urethral canal under an increased degree of distension. It will be profitable to analyze these diagrams, but, before doing so, it may be well to state that the longitudinal lines represent millimetres and the transverse lines inches. It will be observed that the lowest line which represents the least degree of distension of the urethra is tolerably uniform, indicating that the urethra under this amount of distension approximates in shape to a uniform canal. As the degree of distension increases, as shown in the succeeding diagrams, the urethra becomes correspondingly irregular in its outline, and, instead of an approximately uniform canal, there are now well-marked contractions and dilatations even under an amount of distension certainly not greater than is constantly exerted in the passage of urethral instruments. It will be noticed that in the descending scale of distension of the urethra the canal becomes correspondingly less irregular and approximates closer and closer to a uniform canal, and, as the least pressure exerted by the instrument was certainly greater than that exerted by the passage of a stream of urine, it is but fair to infer that during the act of urination the urethral canal becomes still more uniform in caliber; indeed, my observations have led me to the conclusion that during urination the normal urethra assumes the form of a canal of almost uniform caliber.

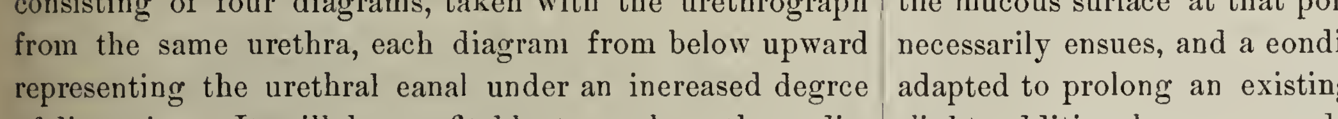

FIG. 1.

Recognizing the fact that the dilatability of the urethra is greater at some places than in others, that in the healthy urethra there is normally a loss of dilatability at certain places, we may modify Sir Charles Bell's definition of stricture by defining it as any *abnormal* loss of dilatability of the urethra.

The relationship which stricture bears to the diseases of the urethra, especially to the condition called gleet, has been a much-disputed subject. The pathology of gleet has been so imperfectly understood, and its treatment so uncertain and so multitudinous, that the practitioner who attempts to cure this malady often becomes bewildered, and in the uncertainty born of ignorance tries everything—bougies, copaiba, cubebs, sandal-wood, nostrums, and injections innumerable—until the patient despairs of a cure and of two evils, a gleet untreated and a gleet overtreated, takes the lesser, and resignedly submits to his fate, with the not infrequent result that the gleet untreated becomes gradually less and ultimately disappears.

Within recent times a new school has arisen, of which Professor Otis is the head and front, which attributes to strictures a not altogether new but decidedly important position regarding the causation and continuance of a gleet.

Professor Otis says (Stricture of the Male Urethra, page 20): "As the urine is propelled through the urethral tube it impinges with more or less force upon any salient or contracted point. The column of fluid is arrested, and in proportion to the degree of arrest is the force of the blow upon the mucous surface at that point. More or less hyperæmia necessarily ensues, and a condition is soon established well adapted to prolong an existing gonorrhœa, or which, upon slight additional causes, such as venereal excitement or even an unusually acrid condition of the urine, may result in the origination of a muco-purulent or a purulent secretion. We may hence affirm as a most important axiom that the slightest encroachment upon the caliber of the urethral canal is sufficient to perpetuate a urethral discharge, or even, under favoring conditions, to establish it *de novo*, without venereal contact."

The teaching of Professor Otis, that gleet owes its origin and existence to the presence of stricture, however slight it may be, and that the only rational cure of gleet is to remove the offending obstruction to the passage of the urine, has reduced the treatment of chronic urethral discharges to a very simple basis: first find the stricture and then remove it, which, by removing the cause, will cure the gleet.

The simplicity of this rule, the dogmatic manner in which it has been enthusiastically taught, the mathematical precision of it, as it were, by which the road to success in urethral surgery was easily trod, contrasted so strikingly with the devious and uncertain ways in which the older surgeons taught us to wander, that it was no wonder that an army of young practitioners, the writer among the rest, enthusiastically and blindly adopted this view, with the result that in the treatment of urethral stricture there has been more pernicious activity displayed, more unjustifiable surgery practiced, than in any other department of surgery.

It would certainly be both unfair and absurd to condemn a rule so generally followed without good and sufficient reasons. I must confess that before investigating this subject for myself I was captivated by its plausibility, and on the presentation of a chronic urethral discharge diligently sought for, and seldom failed to discover with the urethrometer, a stricture upon which I at once saddled the blame of the discharge and immediately set about its removal.

Shortly after devising the urethrograph I began examining as many urethræ as my somewhat limited opportunities permitted, with the view of ascertaining the shape of the urethral canal. One day, while pursuing my investigations in the dead-room, I stumbled across a well-marked stricture in a urethra whose caliber was thirty millimetres, while at the strictured portion it was contracted to twenty millimetres. I then opened the urethra to make an ocular examination, when, to my amazement, no stricture was to be seen. I ran my finger along the glistening mucous membrane; still no stricture could be detected. I then examined closely the spot where the urethrograph indicated the stricture to be, and discovered that the mucous membrane at this part was paler than the adjacent mucous membrane, and, on stretching the urethra by drawing on either side of the incision, it was noticed that at the point indicated as being strictured the urethra was less elastic, stretching less readily than the adjacent mucous membrane, and this was all there was to be seen. Yet here was a stricture which narrowed the caliber of the dilated urethra ten millimetres, which did not narrow the undilated urethra; in fact, it was only a stricture when the urethra was artificially dilated beyond its normal requirements, and practically, as far as obstructing the flow of urine was concerned, was no stricture at all.

This experience led me to pursue this line of investigation still further, and I have been fortunate to meet with several similar cases in the dead-room with identical results, so that I have been forced by my own experience to conclude that a stricture of large caliber, if its merit to the name of stricture depends on its obstructing the outflow of the urine, is not deserving of the name; it may and does obstruct the passage of an instrument which overdilates the urethra, but I deny that it will obstruct the flow of urine or the passage of an instrument of the size of the stream of urine.

In consideration of these facts, it might be well to define stricture of small caliber as any unnatural loss of dilatability of the urethra capable of retarding the flow or diminishing the stream of urine, and stricture of large caliber as any unnatural loss of dilatability of the urethra incapable of retarding the flow or diminishing the stream of urine. I do not present the view that stricture of large caliber does not obstruct the flow of urine, and is only evident on overdilatation of the urethra, as an original one. It has been so put before the profession by others, but it never struck me forcibly until I made these observations for myself.

The above-mentioned facts may reconcile the discrepancy between the observations made by Sir Henry Thompson and Professor Otis on the location of stricture of the urethra. The former found strictures much more frequent at the subpubic curvature than elsewhere, while the latter found strictures most frequently near the meatus, the numbers decreasing with the depth of the urethra, and consequently least frequent where Sir Henry Thompson found them the oftenest. Sir Henry Thompson's observations were made from the immense number of urethræ to be found in the museums of Europe, and consequently every stricture he observed must have contracted the urethra sufficiently to be capable of ocular demonstration; in fact, every stricture must have been, according to the definition given in this article, a stricture of small caliber. On the other hand, Professor Otis gathered his statistics mainly from observations made on the living subject with the urethrometer, so that his list includes both strictures of large and those of small caliber. Hence the probable cause of the discrepancy between these observers, each endeavoring to obtain an accurate result, but, basing their observations on different methods, arriving at radically different conclusions.

In considering the alleged dependence of gleet upon stricture, it may be well to remember the incontestable facts that many a gleet persists without the presence of strictures, or even after their removal; that many a gleet is perpetuated by the over-anxious attempts of the surgeon to cure it, and will often subside with the subsidence of treatment. If, as has been asserted, "the slightest encroachment upon the caliber of the urethral canal is sufficient to perpetuate a urethral discharge, or even, under favoring conditions, to establish it *de novo*, without venereal contact," then would the male portion of society be in a sorry plight, and a urethra without a chronic discharge would be one of the curiosities of medicine. I have yet to see a healthy urethra, or one that has never been subjected to instrumental interference, that did not show a well-marked encroachment upon its caliber, at least at one place, and generally two, as indicated by instruments which overdilate the urethra. Invariably there is a loss of dilatability where the urethra passes through the triangular ligament, and nearly always at the meatus.

I think that even the most ardent disciples of Professor Otis will scarcely dare to assert that Nature has been guilty of such reprehensible conduct as to turn mankind into the world with a urethra so constructed that it is predisposed to become diseased, even under the best of care and most abstemious surroundings. And if a normal encroachment upon the caliber of the urethral canal is innocuous, I fail to see, from a mechanical point of view, why an encroachment no greater in extent in an abnormal situation should have to bear all the blame which it has become fashionable to attribute to it.

Have we not, in attributing gleet to stricture, made the mistake of ignoring the real cause and of placing what are two symptoms of the same disease in the false relationship to each other of cause and effect? What is stricture but the connective-tissue proliferation resulting from chronic inflammation of the urethra, analogous to what we see demonstrated in other organs in a state of chronic inflammation, as in the contracted kidney or cirrhotic liver? What is gleet but the muco-purulent secretion resulting from chronic inflammation of the mucous membrane of the urethra, analogous to what we see demonstrated in other mucous membranes in a state of chronic inflammation and where stricture as an ætiological factor need not be considered?

I appeal for a rational view of this subject, based on a knowledge of pathology, and I protest against the adoption of a law which, if blindly followed, leads to empiricism. I do not for a moment wish it to be understood that, because stricture of large caliber does not retard the flow of urine, it is necessarily innocuous, and should remain untreated. On the contrary, the removal of these strictures is often absolutely necessary to the cure of many a urethral discharge, not because it obstructs the flow of urine, but because it may act as an impediment to the proper treatment of the associated disease.

This brings up the question, When should stricture of the urethra be treated? The propriety of the removal of strictures of small caliber is self-evident, and it requires no discussion to prove that, whether complicated with gleet or not, its removal is imperative, as by obstructing the flow of urine it may be the starting-point in a series of calamities which not infrequently terminates the existence of the unfortunate patient, as many a surgical kidney can attest. The propriety of interference with strictures of large caliber is not so manifest, nor the line of treatment to pursue so plain.

The mere presence of a stricture of large caliber is not of itself a justification for its removal. It is true that by continued contraction it may become a stricture of small caliber and thus be the forerunner of a serious malady; but comparatively few strictures pursue this course to such a termination, and it seems to me that the treatment of stricture of large caliber merely from a prophylactic point of view would be as unjustifiable as would be the removal of the appendix vermiformis because it serves no useful purpose and may become the source of a typhlitis; stricture of large caliber may become of itself the direct cause of urethral trouble, as may be witnessed in the deep urethral or reflex troubles which are occasionally relieved as by magic with the removal of the stricture. Whether this is due to the implication of a nerve filament in the contracting connective tissue or not I do not know, but the fact remains the same—that stricture of large caliber may be the cause of obscure urethral or urinary troubles of a nervous character, and its removal be absolutely necessary to a cure. This form of stricture owes its ill repute less to itself than to its evil associations, for the removal of which it often becomes a barrier.

For the treatment of chronic urethral diseases there is no more potent method, and certainly none more universally used than, none that has stood the test of time so well as, overdilatation of the urethra, whether it be adopted to alter the character of the secreting mucous membrane, to allay nervous manifestations, or to cause the absorption of chronic inflammatory exudations. Its beneficial influence is too well known to require corroboration, and it is here that stricture of large caliber exerts its deleterious influence by preventing the passage of instruments of such a size as to sufficiently dilate the non-strictured urethra; and it is under these circumstances, oftener than any other, that the removal of stricture is demanded.

By the term overdilatation I do not mean forcible distension, but dilatation of the urethra beyond the normal requirements and yet not up to a size which will distress the patient. The broad rule may then be given that when stricture of large caliber becomes of itself the source of reflex nervous or urinary troubles, or offers an impediment to the proper instrumental treatment of the urethra, its removal is indicated.

Before leaving this subject I wish to pay tribute to the energy and genius of Professor Otis, who has taught us a better appreciation of the extent to which the urethra may become dilated without injurious effect and often with markedly beneficial results. The method of treating urethral strictures is a subject so lengthy that it precludes in an article of this kind more than a passing notice. I shall, however, endeavor to emphasize some points which seem to me to be of particular importance, or to have not received at the hands of authorities deserving attention, rather than attempt to cover the whole field in a hasty or superficial manner.

The subject of diagnosis always takes precedence of treatment, and shall therefore be considered first.

In an article on The Diagnosis of a Urethral Stricture of Large Caliber, published in the Pittsburgh Medical Review for July, 1889, and subsequently republished in a number of medical journals, I dwelt at some length on this subject, and, in order to avoid useless repetition, I shall restrict my remarks, as far as possible with consistency, to the elucidation of the views I entertain.

As the treatment of stricture consists of the direct application of the treatment to the strictured tissue, the necessity of its exact localization before treatment becomes often as important as the exact localization of a carbuncle would be previous to its incision. For this purpose various mechanical aids are in general use which may be named in the inverse order of their value, such as the blunt-pointed steel sound, the bulbous bougie, and the urethrometer. The latter instrument, devised by Professor Otis, will, in the hands of the expert, accomplish all that the previous instruments will do and more. Its construction is exceedingly simple and ingenious, and is already too familiar to the profession to require description. In spite of its extended and general use and the brilliant achievements accomplished with it, it nevertheless has admittedly serious faults which restrict its usefulness. As the accuracy of its results depends on the skill of the operator and the sensibility of the patient—two very variable factors—the results obtained by it are necessarily variable. As its use is limited to the straight portion of the urethral canal, a considerable portion of the urethra is necessarily overlooked—a portion which Sir Henry Thompson has taught us is the most liable of all to become the seat of stricture. The necessity of adjusting the urethrometer to the caliber of the urethra and of readjusting it for every irregularity detected, together with the irregular surface presented by the expanded instrument to the urethra, makes the examination somewhat prolonged and always irritating.

Perhaps the most serious objection to the urethrometer is that in its use a point in the urethra is taken to which it is gauged, and this size is taken as the proper size of the whole urethra regardless of the fact that the dilated urethra is not uniform in size throughout; and as the bulbous portion, the most dilatable of all, is usually taken as the starting point, stricture anterior to this is almost always present as shown by the urethrometer, even in the healthy urethra.

To the surgeon who implicitly believes on the dependence of gleet upon strictures and who does not recognize the variability in the dilatability of the urethral canal, the urethrometer will seldom disappoint him in his search for strictures, and it is just in such hands that the urethrometer is capable of so much mischief that it is questionable whether its invention has been a means of alleviating or adding to the misery of humanity.

In order to obviate the objections interposed to the urethrometer, I have devised a new instrument for making a diagram of the urethra which I have called a urethrograph. This instrument has already been described and illustrated in the New York Medical Journal of September 21, 1889. Since that date Messrs. George Tiemann & Co. have undertaken its manufacture; under their skillful direction it has been considerably modified and improved. Taking this into consideration and the fact that it is still a novelty to the profession, I feel warranted in again placing it before them.

The cut given of the instrument illustrates it so well that a detailed description would be superfluous. Suffice it to say that it consists essentially of a cannula terminating in two measuring arms, which are made to open by means of a spring concealed within the handle, the motion being imparted from the spring to the arms by a rod moving within the cannula. Projecting from the under surface of this rod is a pin which moves in a slot in a wheel under the handle. The movements of the pin cause the wheel to partially revolve in its axis, the extent of its motion corresponding to the extent of movement of the expanding or measuring arms at the extremity of the instrument. Attached to this wheel is a marking arm which registers on a strip of metallic paper the movements of the measuring or expanding arms. The wheel also drives a small pinion, to which is attached on the upper surface of the instrument an index, which records in millimetres the expansion of the measuring arms. The motion imparted to the index is such that the millimetres on the scale are of uniform size throughout, a feature not to be found, as far as I am aware, on the scale of any other instrument for measuring the urethra.

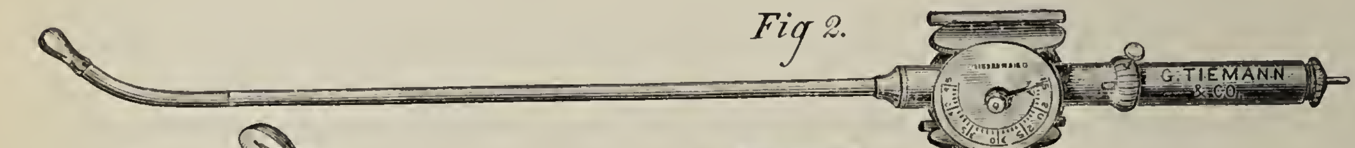

Fig 2.

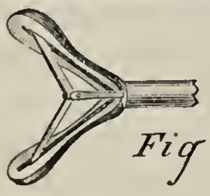

Fig 4.

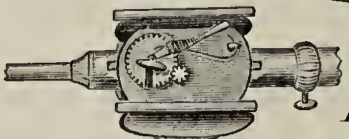

Fig 3.

The card which receives the diagram is inserted into a slot underneath the handle of the instrument. This card is marked in inches transversely and millimetres longitudinally, so that at a glance the size and position of any portion of the diagram may be ascertained. It is made out of peculiar paper, which receives an impression from a metallic point, obviating the wear and necessity of renewal, so inseparably connected with ordinary pencil-points. The spring is so adjusted that the measuring arms press with equal force against the urethra in all positions, whether they are widely dilated in passing through the healthy urethra or closely approximated in passing through a stricture. By a simple arrangement, which requires to be seen to be appreciated, it may be taken apart for cleansing purposes, and put together again in a few moments, thus insuring the great desideratum of modern surgical instruments, asepsis.

To use this instrument it is inserted into the bladder with the measuring arms locked by a pin moving in a bayonet joint on the upper surface of the handle. The paper for receiving the diagram is then inserted into the slot prepared for it. With the thumb and index finger of the left hand the glans penis and card are seized, slight traction being made at the same time on the penis, which insures steadiness of the card by keeping it always in the same relative position to the urethra. With the index finger of the right hand the pin working in the bayonet joint is liberated, which, by releasing the spring, expands the measuring arms. Nothing remains but to withdraw the instrument from the urethra after the manner of withdrawing a sound, and a diagram is taken which records the exact size of the urethra under a uniform pressure at all parts—a diagram which is unaffected by the skill of the operator and the sensibility of the patient, and is the same whether the instrument be handled by the expert or by the novice.

The advantages alleged for this instrument are:

1. The rapidity with which an examination can be made.

2. The simplicity of the examination; so that it offers no greater difficulty than the introduction and withdrawal of the sound.

3. The accuracy of the results and its independence of the skill of the operator.

4. A uniform pressure is exerted against the urethra at all parts of the instrument; so that the patient does not suffer from the instrument being obstructed in passing through a stricture.

5. The pressure exerted by the instrument against the urethra can be adjusted at the will of the operator.

6. A record is obtained; so that at a glance the size of the urethra at any part may be ascertained.

7. These records may be filed away and kept for future reference or comparison with subsequent diagrams taken from the same urethra.

Turning from the subject of diagnosis, which has only been partially treated, we come to consider the subject of treatment; and as this article has dealt chiefly with strictures of large caliber, I shall leave out of consideration the treatment of very close strictures, such as may require the use of filiform bougies, not because it is unimportant, but, on the contrary, because its importance is too great to permit of its being treated in a superficial manner, and, as the limits of this article prohibit me from doing it justice, I feel that it were better left untouched than handled in a manner unworthy of the subject. Granted that we have for treatment a strictured urethra capable of admitting the urethrograph (or about 15 mm.), and that we have obtained a diagram showing the size and position of the strictures, what course of treatment should be pursued?

The answer to this question will depend on three factors: the circumstances of the patient, the nature of the stricture or strictures, and their location. If the patient is in a hospital, time is an important object, and we may be justified in adopting heroic measures, as the patient is completely under our control, and there is less danger of unfortunate results arising from heroic treatment. Under these circumstances, in the great majority of cases, urethrotomy would not only be justifiable, but be highly proper, as it restores the caliber of the urethra and removes at once what may have been an obstacle to the treatment of other associated urethral diseases. If, however, the patient is compelled, from motives of business or secrecy, to continue during treatment at his daily occupation, then milder measures are indicated; time becomes of less importance, and in these cases we have recourse to gradual dilatation in preference to urethrotomy.

As regards the second factor—the nature of the stricture—there are two varieties which to a great extent preclude gradual dilatation, the resilient and the irritable strictures; the resilient strictures because after dilatation they have a vicious propensity to return to their pristine condition of tonic contraction.

In this form of stricture but little headway is gained by gradual dilatation, and urethrotomy is strongly indicated. The second form of stricture, the irritable, is that variety of stricture which, owing either to the abnormal sensibility of the patient or the inflamed condition of the stricture, is acutely painful on manipulation. Here again it is better to accomplish the object at once by urethrotomy than to harass the patient by prolonged, painful, and generally futile attempts to dilate the stricture, which usually results either in increasing its irritation and tenderness, or in the patient exhibiting his good sense by betaking himself to some other practitioner more considerate of his feelings.

It may be said that an inflamed stricture is never benefited and generally aggravated by attempts at dilatation. The last factor, the location of the stricture, has an important bearing on treatment; for instance, a stricture of the meatus should always be treated by incision, never by dilatation, while a stricture in the membranous urethra is usually best treated by dilatation, unless it is very close, when occasionally external urethrotomy is to be preferred, especially as is often the case in this situation, that the stricture is of traumatic origin, which experience has shown to be so unmanageable to dilatation, so dangerous to internal and so safe to external urethrotomy.

As a general rule, it may be said that the nearer a stricture is to the meatus the greater the safety of internal urethrotomy, and, *vice versa*, the deeper the stricture the greater the danger, although the admirable results obtained by Professor Otis have shown that, in competent and careful hands, the dangers of internal urethrotomy are almost chimerical; but, unfortunately, the urethrotomists are not all competent and careful, and while incompetency and carelessness exist, so long will this trivial operation remain a source of danger and a menace to the life of the patient. That ill results have followed, sheds more discredit on the operator than on the operation, and he who renders less important the skill of the operator as a factor in the success of the operation adds to the achievement of surgery and to the welfare of humanity.

In considering the methods of treating stricture I have purposely omitted to mention two methods in somewhat general use: I refer to rapid divulsion and electrolysis. In regard to the former method I think I but echo the thoughts of the foremost minds on the subject when I say that it is falling into rapid but merited disuse. It has, however, a place to fill, from which it may never be displaced, and that is in the divulsion of very tight strictures up to the size which will permit of the proper use of the sound or the urethrotome.

Some observations which I have made with the divulsor and the urethrograph have led me to the conclusion that rapid divulsion is utterly incapable of obliterating stricture of large caliber, and for such purposes should in the present be relegated to the oblivion which in the past has fallen upon caustics as a means of treating urethral stricture.

The subject of electrolysis is one into which I can not enter with credit to myself or with justice to either its advocates or its opponents. My experience with it has been nil, but, from what I have seen in the hands of others, I have been inclined to the belief that the gentle but prolonged pressure exerted by the conical tipped electrode against the stricture has perhaps more beneficial effects from a mechanical standpoint than from the electrolytic effect, to which the entire benefit, if any, is usually ascribed. The manner in which gradual dilatation cures strictures, and the method which should be used to accomplish this end, I will not enter into, as I have nothing new to add to what is or should be familiar to every one who practices urethral surgery.

I will only reiterate what has been so forcibly taught by others—that gentleness and patience are the great requisites of success. The urethra may be coaxed, but it can not be forced, into subjection. The method of treating strictures by urethrotomy has been before the profession for generations. Lauded by some, reviled by others, yet, in spite of its ups and downs, after the lapse of over a century, it stands to-day without a peer in the treatment of many a strictured urethra, but, like most other operations, it is not intended for universal application, and on the discretion and skill of the surgeon must depend, not only the determination of when it should be used, but also, in a great measure, the success of the operation.

As each urethra is to a certain extent a law unto itself, and as there is not and never will be a fixed and unalterable law to govern its treatment, it is simply absurd to dictate what should be done in every case. The indications for treatment may be given, but the exact mode of treatment which should be adopted in each particular case must be left to the discretion of the surgeon. He must rely on his own brains just as much as on the word of authorities. Above all, he should avoid hobbies, for the man who rides a hobby is a dangerous man. The hobby of indiscriminate urethrotomy is particularly dangerous, and has often brought disaster on the patient and undeserved disgrace on the operation. As this operation lays open tissues capable of absorbing septic material, the antiseptic method should be used throughout, and is just as important here as it is anywhere else; the instruments should be above suspicion and the urethra uncontaminated as far as diligent antiseptic irrigation will render and maintain it. If the urine is healthy it is non-irritating, and its contact with the wound may be disregarded, provided extravasation does not take place, when decomposition of the extravasated urine is liable to occur, which converts it from a harmless to a most irritating and destructive agent capable of blighting whatever it comes in contact with. If the urine has already undergone decomposition within the bladder, antiseptic treatment should be adopted to purge from that viscus the bacterial ferments which render the urine so noxious before urethrotomy should be attempted.

Another important factor in the success of the operation is the state of the kidneys. If they be diseased, then urethrotomy and all other urethral operations, even the simplest, becomes a source of danger not to be undertaken without a due consideration of the risks incurred.

A few words about stricture of the meatus. If a contracted meatus offers an impediment to the treatment of the urethra, then the inflexible rule is that it should be unhesitatingly cut. Its incision is simple, safe, and satisfactory, while attempts at dilatation or divulsion are as brutal as they are useless, and should receive the strongest condemnation of the profession. The meatus should only be cut up to a size which will readily permit the passage of an instrument the size of the dilated urethra. Cutting beyond this size is unnecessary, injurious, and unjustifiable. I protest against the reckless laying open of the glans penis down through the frenum which one sees so often as the result of treatment at the hands of some so-called specialists whose claims to the title seem to rest on two things—special eagerness to use the knife and special ignorance of its proper use.

As an illustration of how far this overdoing of surgery may be carried I may refer to a case which I saw recently in a gentleman whose meatus had been cut by a specialist. The glans penis was almost divided. Dreading hæmorrhage if he cut the frenum, the operator exhibited his ingenuity in surmounting obstacles by slicing the glans first toward the frenum, then carrying the incision with a graceful curve to the left, thus missing the frenum by an eighth of an inch and giving to the glans a decidedly unique appearance and to the stream of urine a course that can be better imagined than described. For the incision of all strictures except those at or in the immediate neighborhood of the meatus we have recourse to instruments specially designed for this purpose called urethrotomes. As we might naturally infer in an operation of this nature, which has been before the profession so long and which affords so much scope for the ingenuity of the profession to display itself, there has been an endless variety of urethrotomes devised of almost every conceivable style of construction. In one catalogue of surgical instruments recently issued there are no fewer than thirty-six urethrotomes illustrated.

Urethrotomes may be divided into two varieties: First, those for the treatment of very tight strictures, which are generally used by thrusting the knife from before backward through the strictured tissue. The second variety differs from the first in the fact that they cut in the reverse direction toward the meatus; consequently the stricture must be of sufficient caliber to permit of the passage of the knife previous to cutting. As this variety of urethrotome is the one always used in the treatment of stricture of large caliber, we shall confine our attention exclusively to it. There are two qualifications necessary in all urethrotomes for the treatment of stricture of large caliber: they must cut toward the meatus, and they must also put the tissues to be cut on the stretch at the moment of incision. The profession of this country are indebted to Professor Otis, who, though not the originator of the method, was the first American surgeon to place dilating urethrotomy—by his writings, his instruments, and his results—in an impregnable position; and his name will ever be closely entwined with the history of this operation. It is a pity that the luster of the name and the brilliancy of the operation should be dimmed by the abuse of this method of treating strictures, which has followed the undue estimation of the importance of stricture of large caliber, and of the value of dilating urethrotomy as a means of its cure.

The urethrotomes at present in use are, with the exception of the one recently devised by Gerster, unsatisfactory, owing to the necessity of previously locating the stricture with other instruments and of accurately adjusting the urethrotome to the part indicated, so that the knife will cut the strictured tissue.

When we consider that in its longitudinal direction the urethra is a variable quantity; that a slight difference in the traction made on it may make a very perceptible difference on the location of the stricture; that this error may be magnified in inserting the urethrotome; that the urethrotome most commonly used alters its position in the urethra during the process of being dilated—we will readily see that the exact localization of a stricture is attended with considerable difficulty and uncertainty.

In practice it is necessary, in order to be certain of cutting the whole length of the stricture, to make the incision longer than the stricture; and herein lies the greatest danger of urethrotomy—the cutting of the healthy urethra, which is not only more vascular, but its walls are thinner than at the strictured portion, and its incision is consequently more liable to be associated with dangerous hæmorrhage and extravasation of urine. A urethrotome so constructed that it would cut the strictured tissue only, and do so without the necessity of previous localization of the stricture, would, in conjunction with the proper antiseptic precautions, render the operation of urethrotomy both simple and safe, even in unskilled hands.

Without entering into the merits of the various urethrotomes now in use, I will describe one which I have devised, which accomplishes the object already indicated of cutting the strictures only, and without the necessity of their previous localization.

This instrument, which has been made for me by Messrs. George Tiemann & Co., is constructed on the same principle as the urethrograph, having, like it, a spring concealed within the handle. It has but one measuring arm, opposite which is a knife concealed within its sheath. The knife may be thrown into or out of use by tightening or loosening the screw on the upper surface of the index plate. By loosening the two screws on the upper and under surfaces of the handle, and unscrewing at the extremity of the instrument, it may be taken apart in a few moments and readily cleaned. To use this instrument, it is inserted into the urethra as far as the bulbous portion, but not beyond the triangular ligament. The measuring arm is then liberated by moving outward the pin on the index plate. The instrument is now slowly withdrawn from the urethra, during which the index is closely watched in order to ascertain, not the size or the location of the stricture, but the size of the non-strictured portion of the urethra.

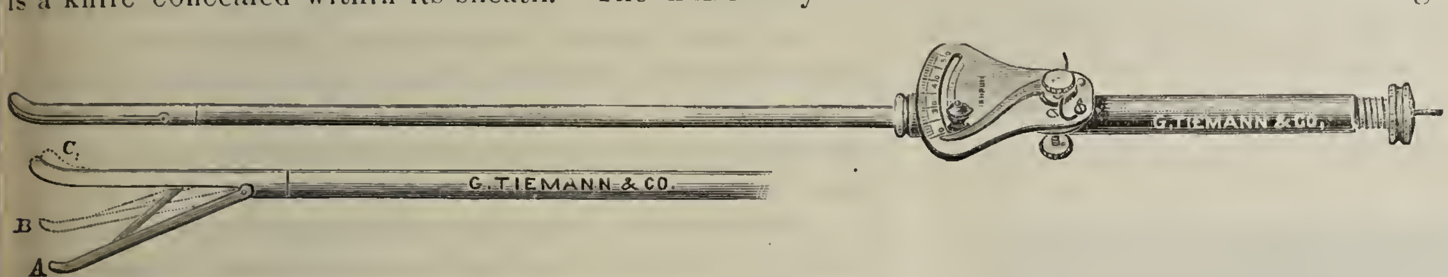

Fig. 5.

Having by this means ascertained the size of the healthy urethra, the instrument is re-inserted beyond the stricture and the measuring arm permitted to expand to the size indicated as that of the healthy urethra. The screw on the upper surface of the index plate is then tightened, throwing the knife into use. In withdrawing the instrument, the distension of the stricture at the point of incision may be regulated by pressing against the screw on the upper surface of the index plate. The action of the instrument is automatic, and it is only necessary to withdraw it from the urethra to complete the operation.

In the passage of the instrument through the non-strictured portion of the urethra the measuring arm remains motionless; but when a stricture is encountered, the canal being narrowed, the measuring arm is pressed inward, and the knife is projected by this motion out of its sheath and into the strictured tissue. As the instrument passes the stricture, the measuring arm is forced outward until it is expanded to the size at which it was originally set; simultaneously the knife passes into its sheath and the cutting ceases. If other strictures are encountered there is a repetition of the same manœuvre. Should it be desired to cease cutting at any time, the screw on the upper surface of the index plate is turned to the left, the knife immediately recedes into its sheath, and the instrument may be withdrawn without its further exposure.

In conclusion, I desire to say a few words about the curative effect of urethrotomy on stricture. It has been asserted that, if a stricture is completely severed, absorption of the strictured tissue will follow, and by this process of absorption a permanent cure will ensue. My personal experience with urethrotomy has not extended over a sufficient length of time, nor have my urethrotomies been so numerous, as to enable me to speak authoritatively on the accuracy of the assertion.

I can readily understand how the inflammatory infiltration in a recently inflamed urethra may undergo absorption and the urethra be restored to its original caliber. I can understand how a stricture which has ceased to contract may, after it is cut, show little tendency to recontraction, as there would only be contraction from the splice of new material which occupied the gap formed by the incision. I can understand how a contracting stricture may be cured by dilatation and keeping it dilated until it has ceased to contract forever —the contraction of cicatricial tissue has an end. I can readily understand all this; but why a simple incision of a stricture should cause the absorption of cicatricial tissue is beyond my comprehension; and if it will do so in the urethra, why will it not do so in other situations ? It seems irrational to me, and contrary to the laws of pathology, which I fear have been too much ignored by many urethral surgeons.

The failures of urethrotomy to cure strictures are too numerous to be ignored, and the explanation that, "without complete and absolute sundering of the stricture to its ultimate fiber, recontraction sooner or later is certain" (Otis, Stricture of the Male Urethra, p. 233), is too unreasonable to be even considered as a loophole of escape out of an embarrassing dilemma.

I do not wish to condemn urethrotomy; on the contrary, a high appreciation of its value has urged me to use my efforts to add to its simplicity and safety, and it is the same appreciation of its value that urges me to appeal to the profession not to consider it a panacea for all urethral ills, but to consign it to its proper sphere, and, by its judicious employment, lift from it the cloak of distrust with which its indiscriminate and reckless use has enshrouded it.

THE EARLY OPERATION FOR HARE-LIP.

WITH THE REPORT OF TWO MORE CASES.

By THOMAS H. MANLEY, M. D.,
VISITING SURGEON TO THE HARLEM HOSPITAL.

In the issue of the Journal for June 15, 1889, I contributed a short report on a case of hare-lip, with a few comments, and, as I have had some further experience with the operation for this deformity since, I will further lean on the indulgence of the readers of the Journal, with the hope that, as the subject of oral surgery is seldom dwelt on in current medical literature, I may be permitted to again ask their attention to a further consideration of the congenital impediments met with in the naso-maxillary region.

I have little original to present in connection with these two additional cases, except that, with an extended experience, I am *more than ever* assured that the period of life at which those cases of congenital cleavage through the lip or gum should be operated on is the *very earliest* possible, while the osseous tissues are in an immature state and capable of enduring *forcible* manipulation without imperiling or disturbing their integrity.

On the 14th of last August (1889) I operated on two cases of hare-lip at my clinic in the Harlem Hospital.

Case I.—This infant, a female, healthy child, was sent to me for operation from Brooklyn. She was the first-born of a young married couple, coming into the world just *four days* prior to operative procedures—*i. e.*, she was born on Saturday, and we took the case in hand for relief on the following Wednesday. The mother, a most intelligent lady, assured me that she had not the slightest recollection of having been in any way alarmed or frightened during her pregnancy, and hence could in no way account for her offspring's pitiable condition.

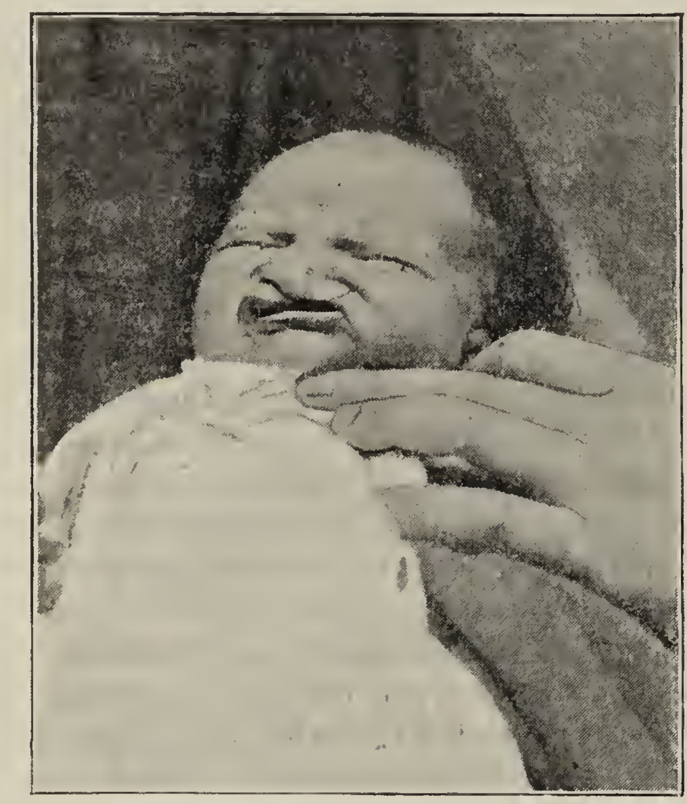

Fig. 1.—First case, before operation.

As is seen in the photograph before operation, the grimace is most marked and offensive. It would seem at first sight that the greater part of the alveolar arch, anteriorly, was wanting, for that irregular, oblong, dark space here observable extends directly into the buccal cavity; and the nose, from its flattened, distorted position, falling in on one side, and twisted upward and backward on the other, is suggestive of hypertrophy or excessive volume, and its general outline is such as would give but little hope of ever being able to establish—I will not say restore—even a moderate degree of harmony of expression, in this situation, by any sort of plastic operation. There is practically no upper lip, and when the mouth is closed the oral orifice is occluded only by bringing together the broad, flattened columna naris and the vermilion border of the lower lip. The nares are obliterated, owing to the collapse of the nose and the retraction of the divided labium. No intermaxillary bones are visible, and the *apparent* loss or absence of tissue is very great. It was only too evident to the most casual observer that an operation *limited* to the *soft tissues* would be of no avail. Now, on making a critical examination of the parts, I found what is usually the case—viz., *no loss* of tissue whatever, except, perhaps, some slight *atrophy* of various muscles. It is not without interest to note the peculiar manner in which *all* the facial muscles seem to participate in this deranged and disordered action, best seen near the oral commissures.

Looking into the mouth, I discovered that a cleft extended through the palatine vault on one side; the velum, as well as the harder tissues, was opened through.

In considering the question of operation, and carefully weighing in my mind the possible dangers and results, I finally concluded that the initial step in this case must be the *restoration* of the bony framework. As a preliminary, it was imperative that an osteoclasis or an osteotomy must be performed, and it was quite clear that, if this were successful, the other details of the operation were of trifling importance.

Some sort of abnormal pressure and contraction were brought to bear in intra-uterine existence the effects of which must be overcome by the same forces, exerted immediately on the child's entrance to extra-uterine life—viz., counter-pressure and *re*traction.

Operation.—The infant was placed in the arms of the nurse, the latter seated in a high arm-chair, when chloroform was administered.

The whole of the right segment of the alveolar arch with the corresponding maxilla was seized with the thumb and fingers of the right hand, and when engaged in this grip the left hand was brought to bear on it, and now, with steady, continuous pressure of the whole body concentrated on this ridge of bone, the wall of the face was felt to gradually give way, until the outer surface of the intermaxillary bone came into immediate contact with the maxillary segment of the left side.

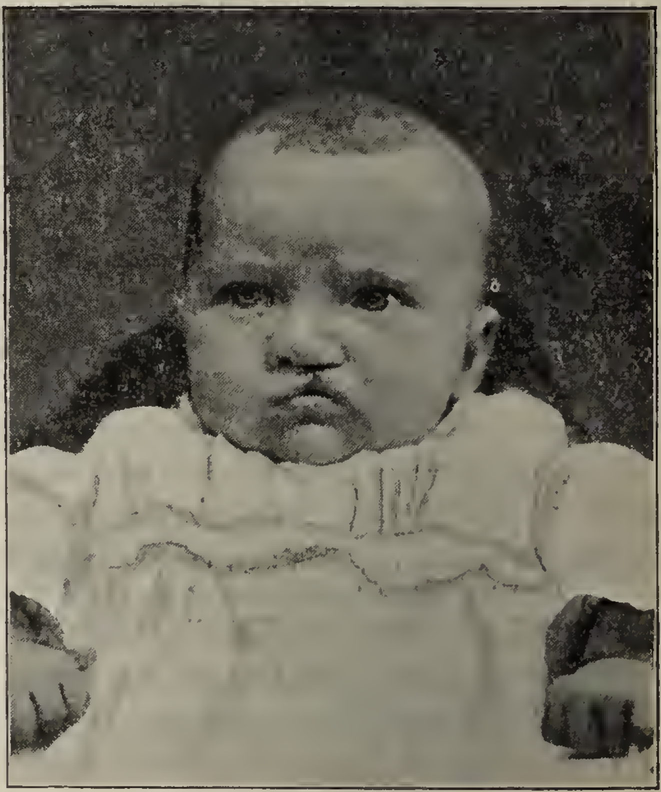

Fig. 2.—First case, after operation.

Now the edges of the separated osseous tissues were freely pared and the alveolar processes of the maxillary and intermaxillary bones solidly riveted together by heavy silver wire. Thi manœuvre, though somewhat difficult of execution, produced most marvelous change. Indeed, for the moment it seemed to have restored the natural contour of the entire face. The whole of the open chasm was filled in, the alveolar structure for the lodgment of all the central and lateral superior incisors being brought into position, that flattened-out shape of the nose disappeared, the cleavage in the hard palate on a line with the gum was sealed, and the deeper cleft very much diminished in width. An expression of peaceful composure replaced the vicious scowl of but a moment before.

I now dissected very carefully, passing in an inward direction from the frenum labii of the left side, until the root of the levator labii superioris alæque nasi was reached and freely divided.

The remainder of the operation was very simple. My only care was *not to sacrifice* the smallest particle of any species of tissue whatever.

The after-treatment was uneventful, except that some of the cuticle sutures—which were silk—ulcerated through, requiring wire to be substituted.

The cut is the baby's likeness when she was four months old.

Case II was that of a baby just six days old, sent to me by Dr. George D. McGauran, of New York. The patient which forms the subject of this history was another female, the fourth child of healthy parents; was hearty and vigorous at birth. The mother alleged in this instance that, when she was three months pregnant with *the preceding child*, one day her husband playfully seized her upper lip between his thumb and index-finger, producing a teat-like projection of the parts. While doing this he held a mirror suddenly before her, which, when she saw the distorted lip, gave her a great start, and later occasioned her much worry. Her baby was born with a reduplication of this disfigurement. It had, as in the present case, an extensive breach through the tissues of precisely the same description; was operated on by one of our best surgeons when six months old, but died the following day.

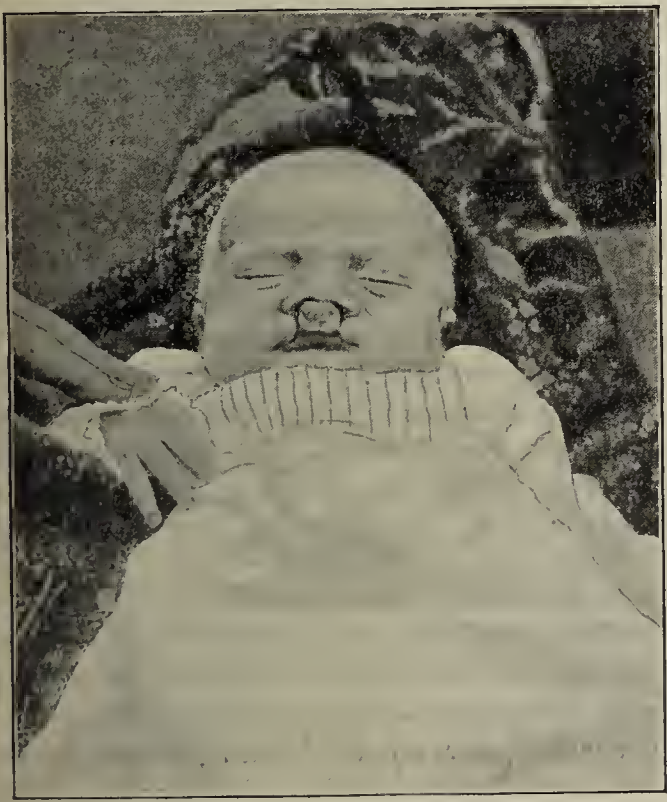

Fig. 3.—Second case.

We had here a bilateral cleft through *everything*, from the labial integuments through the alveolus, the palate, hard and soft, on both sides, opening fully and freely into the nasal cavities.

The intermaxillary bones were crowded forward and upward, and were attached to the nasal septum by a narrow, diminutive stalk. Though the palatine vault was divided on both sides, the separation was not very considerable, and I hoped, by steady pressure under ether, to fairly approximate them and form a floor for the nares. In operating on this little one a condition of things was encountered entirely unexpected. I found the bony structures of the superior maxillæ in advanced ossification, requiring for the first time the use of the osteotome. The bony tissues were partly divided, a little posterior and beneath the malar maxillary articulation just below the insertion of the masseter muscle, very close to where the internal maxillary artery courses on its way to the brain.

This done on either side, when both segments came quite readily toward each other. As the intermaxillary bone was pendulous and movable, I decided to remove it altogether.

After this the operation was completed in the usual way. As in the preceding case, I was obliged on the seventh day to insert two fine silver sutures, for in both of these cases the aseptic silk suture caused irritation and threatened to ulcerate through.

Everything went smoothly after the operation, except for the annoyance with the first set of sutures, till she was three weeks old, when we had a hot, sultry spell of weather; then she developed cholera infantum and died. Union had completed and the operation had been successful, when she was carried away by this bowel trouble.

I am well aware that I am at variance with many distinguished operators in advising remedial measures so early in life. But there have been, and are, many well-known surgeons, both in this country and abroad, who advise interference as soon after birth as possible. MM. Guersant and Giraldès * advise operation before the end of the first week; and Sir James Fergusson said the earlier the better, from any time within a few hours of birth. If circumstances would permit, I should much prefer to reduce the operation to two stages, and do each at separate intervals.

First stage, do a preliminary confined to the osseous structures, when the rent or cleavage involved them; when it did not, of course, one operation alone is necessary.

The second stage would consist in merely trimming, and would entail but little difficulty.

With the first operation we must bear in mind that the bones of the jaws and palate will endure pressure longer and with greater impunity than any other in the body. If this were not the case, modern dentistry would be an impossibility.

But the soft, velvety, vascular tissues in this region, with their spongy, elastic, bony framework, will bear with safety *prolonged* manipulation, when this is *judiciously applied.*

Hence, when necessary, the importance of proceeding gently but persistently with the parts of an osseous character, with a view of restoring to its *fullest* degree the normal expression of the face.

By a singular coincidence, all my cases last year were girls. Championnière reports 346 cases as having been operated on in the Hôtel Dieu, of which 210 were in boys and 136 in girls, though he says that this is directly at variance with the reports of other surgeons.

While it is indispensable that every detail of the operation be faithfully carried out, and that it be modified under varying circumstances, yet our best efforts will be futile if our cases are not *intelligently* nursed.

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* Gazette hebdomadaire de méd. et de chir., Mai 1874.

If there is much pain accompanied with uneasiness, small doses of paregoric should be given in order to keep the infant quiet, for the act of crying is destructive to union. Although many cases in surgery may be safely handed over for future care to the general practitioner, this is of a class in which the surgeon should not relinquish his control for at least ten days—not until union of the parts is solid and permanent.

If the mother has a good supply of breast-milk, it should be drawn daily and given to the infant, when, if everything goes well, in a short period of time it will be all taken in nursing the baby.

The heavy silver-wire rivets I leave in the jaws for a month or more. They produce no irritation and form a most valuable support for all the parts, till the tissues have accommodated themselves to the condition of re-position.

These rivets I regard as the "keystone to the arch," for, these failing, everything fails.

I never divide the frenal attachment of the lip to the gum, unless it be along the line of cleavage, for it invariably reunites and leaves the free, movable labial border more corrugated and contracted than ever.

I always provide against hæmorrhage when possible by, before cutting into anything, applying the temporary transfixion ligature.

Pain subdued by anæsthesia, infection prevented by the application of antiseptics, and bleeding made impossible, the operation is attended and followed by no shock, and a rapid recovery with a cure of the distortion should be the rule.

IMMEDIATE BLINDNESS OF ONE EYE

A SYMPTOM OF CERTAIN FRACTURES OF THE BASE OF THE SKULL.

REPORT OF TWO CASES.[*]

By CARL KOLLER, M. D.

It is a fact, the knowledge of which goes as far back as our history of medicine reaches—that is, to Hippocrates—that injuries to the skull, and not always severe ones, sometimes are followed by immediate, complete, incurable blindness of one eye. The cause of this remarkable fact was entirely obscure until about twelve years ago. Several conditions had to be fulfilled and our knowledge to be extended in various directions before the right explanation could be found. The histories of all the well-observed cases on record—at least seventy—read, with some variations, like the two following, which I had the opportunity to observe within a very short time in this city:

George T., thirty-eight years of age, was sent to me by Dr. Carl Beck, of this city, on June 9, 1889. Four days previously he was struck by another man with the top of an umbrella against the region of the inner angle of the right eye. The exact place, whether the supra-orbital margin, the root of the nose, or the nasal process of the maxilla, could not be ascertained. The stroke must have had considerable force, for the top of the umbrella broke off, but without causing a wound of the skin. The pain staggered him for a moment; he, however, did not lose consciousness, as he ran after his assailant and punished him. He lost some blood from the right nostril. Immediately after the occurrence he noticed that his right eye was blind. As Dr. Beck wrote me, the eyelids and the infra-orbital region were very much swollen at first by hæmorrhage under the skin. The doctor applied leeches and gave the patient a dose of calomel. When I saw the patient—four days after the accident—there was very little to be found of a positive nature. In the region of the inner angle and along the upper lid there was a small subcutaneous hæmorrhage, and the skin of the lids and of the cheek was yellowish discolored. The eyeball appeared entirely normal, perhaps a trifle protruding. There was not the slightest injection or irritation; the movements were perfectly free. The only thing remarkable was a dilatation of the pupil, which was, however, not maximal. Pressure upon the eyeball caused slight pain in the depth of the orbit. There was no perception of light, and the pupil did not react to light. The ophthalmoscopic examination revealed an entirely normal fundus. If it had not been for the missing consensual pupillary reaction of the good eye when the affected eye was covered and uncovered, neither external aspect nor ophthalmoscopic examination would have maintained the patient's statement that the eye was blind. The left eye had normal vision. I ordered the patient to rub in the mercurial ointment on the forehead and temple thrice a day, and gave him a third of a grain of pilocarpine daily. I watched the patient, and did not see any substantial change until three weeks and a half after the injury. Then the optic disc did not seem to be so clearly defined as before; the smaller arteries were decidedly thinner, a sign of beginning atrophy. The general health of the patient was very good, complaining only of an occasional headache on the right side. I saw the man five months later, and the optic nerve showed white atrophy.

For the other case, which I had the good luck to watch from beginning to end, I am greatly indebted to my colleague in the New York Eye and Ear Infirmary, Dr. H. S. Oppenheimer. Dr. Oppenheimer's report of the case is this:

Ellen M., aged thirty-four years, married, presented herself at the New York Eye and Ear Infirmary, August 16, 1889, with the following history: Ten days ago she was struck by her drunken husband, with his fist, on the right eye, and a little while after this he threw a brick, which struck her on the right temple and knocked her senseless. She remained unconscious for about twenty-four hours, and had to remain in bed a week with pain in the head. When she recovered consciousness she noticed that her right eye was blind.

Status præsens: Remains of ecchymosis on right conjunctiva and around orbit. The right eye is immovable laterally. The motion up and downward is impaired, the pupil dilated *ad maximum*. The media are clear; lens in place. The retina and macula normal, nerve normal, with perhaps absence of a few of the finer nutrient vessels. Vision = 0. Trifling exophthalmia. Left eye normal. Patient was put on the use of strychnine.

September 11th.—Lateral motion is much improved. Nerve growing paler. Perception of light over eccentric spot in the outer part of the field.

November 23d.—Motion of eye almost perfect in all directions. Vision in the small area in the outer part of the field amounts to movements of hands; she can not distinguish the hand from a card. The rest of the field absolutely dark. Nerve white and atrophic. Left eye normal.

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[*] Read before the Section in Surgery of the New York Academy of Medicine, March 10, 1890.

All the cases, which, as already mentioned, are not so very rare, have in common that the loss of vision is immediate, that it is one-sided only, that it is complete and permanent. Our knowledge of physiological and anatomical facts at present allows us to locate the possible lesion to within a very limited place. The lesion must be somewhere toward the periphery of the chiasma; for every lesion of the optic-nerve fibers in the chiasma or beyond the chiasma would necessarily affect also the other eye; for the semi-decussation of the optic-nerve fibers is well established by anatomical, experimental, and clinical researches. Further, the ophthalmoscope shows us that in the beginning and for some weeks later the retina and the retinal blood-vessels of the blind eye are entirely normal, and that is conclusive evidence that the place of the lesion in the optic nerve is situated more than half an inch behind the eyeball; for that is the point where the central retinal vessels enter the optic nerve, and they could not show a normal appearance in the retina if participating in the injury. Within these narrow limits, hardly the length of an inch, the optic nerve must be either severed or its function destroyed by pressure, as is unmistakably shown by the atrophy of the disc beginning about three weeks after the injury. All points to the optic canal as this place, a locality especially prone by its narrowness to such occurrences. The first to have mentioned a fracture or a fissure on that place as a possible cause was Richet, who, in a lecture in the Hôtel Dieu in Paris, 1877, advanced the hypothesis that a dislocated splinter of the fractured orbital roof compresses the nerve. The hypothesis of a fracture going through the optic canal proved to be the right one, as has been shown on the one hand by pathological study, and on the other hand by clinical observations. Berlin, in his paper, published in 1879, reported the results of the pathological studies of von Hölder. Von Hölder was in a position similar to that of a coroner's physician, and had ample opportunity to make autopsies in cases of fracture of the skull. He improved the opportunity by always removing the dura mater and noticing the frequency and the course of the different kinds of fractures, making drawings of each case. Von Hölder found, among one hundred and twenty-six fractures of the skull, eighty-eight fractures of the base, and among these latter eighty—that is, ninety per cent.—fractures of the orbital roof. In these eighty-eight fractures of the base there was present fifty-four times, or in sixty per cent., a fracture of the optic canal. Thirty-four times the fracture of the optic canal was a direct one, produced by a shot through the mouth; but in twenty cases it was a prolonged fracture, caused eleven times by falling on the head, once by being run over, and eight times by being shot through the forehead. These prolonged fissures were mostly through the sella turcica and always affected the upper wall of the optic canal, often at the same time the inner wall, so that a fissure having a sagittal course on the sella was divided in two branches in the canal, one branch going in the upper the other in the inner wall. This latter continued with a predilection for the orbital plate of the ethmoid; rarely it affected the lower wall; but then the anterior clinoid processes were severed completely. The optic nerve in the cases of indirect fracture, which interest us most, sometimes looked as if attenuated and was thinner on section, and hæmorrhage in the substance of the nerve was sometimes present. Von Hölder found hæmorrhage in the sheath of the optic nerve forty-two times among those fifty-four fractures of the optic canal. The hæmorrhage in the sheath existed sometimes only in one side, sometimes in both; hæmorrhage in the sheath was never found without there being fracture of the optic canal.

Although no clinical histories of the cases are given, the researches of von Hölder are of great importance. They show that in a very large percentage of the fractures of the base the optic canal participates. It is true, though, that all of Hölder's cases were very severe cases of fracture, for the patients had died; but, nevertheless, they show that, by the configuration of the base, the optic canal is a locality very much exposed to fracture by indirect force. Further, these results do away with the hypothesis that the blindness is caused by hæmorrhage into the optic sheath, which latter never occurs unless there is a fracture of the optic canal.

The clinical symptoms accompanying and following the injury furnish conclusive evidence of a fracture in the anterior fossa of the base. Almost always the injury is followed by dizziness, very often by loss of consciousness lasting from a quarter of an hour to several hours; frequently vomiting occurs. More direct signs of a fracture are a separation of the orbital margin or a depression to be felt through the skin. An almost constant symptom is profuse hæmorrhage under the conjunctiva, making its appearance sometimes right away, sometimes several hours or even days later. Protrusion of the eyeball is likewise caused by hæmorrhage into the orbit. Almost always considerable epistaxis from the same-sided nostril occurs, frequently relapsing in the first days. Other functional disturbances pointing to a fracture of the orbital roof are disturbances of the ocular muscles, as dropping of the upper lid, paralysis of the rectus internus or externus, loss of sensibility in the area supplied by the supra-orbital nerve and other branches of the trigeminus. Very frequently there is loss of smell on the affected side, evidently caused by fracture of the ethmoid and crushing of the olfactory nerves. All these symptoms are generally temporary, the functions named often returning in the course of time and showing that the other nerves have been affected less directly than the optic nerve. Only the blindness is complete and incurable, because the optic nerve has been completely severed or crushed; in all cases the optic nerve showed decided signs of beginning atrophy after about three weeks—just the time when a descendent atrophy, according to our pathological knowledge, can be expected to arrive at its peripheral end. There are, however, a few cases where the loss of vision had not been complete immediately, but where it became so in the course of time, evidently by the establishment of a bony callus in the optic canal. I wish to add that there are a few cases on record where an incomplete loss of vision has been followed by improvement, or even recovery, and the assumption must be made that the nerve had been paralyzed only by a compression of a momentaneous duration without deeper damage to its substance.

As to the mechanism of the fracture or fissure of the optic canal it is difficult to give an explanation. We have to distinguish between prolonged fissures and indirect fractures. The fracturing power in the majority of cases in question is a blow to the forehead in the neighborhood of the supra-orbital margin, but sometimes a fall on the occiput. We must imagine that a sudden alteration of the shape of the cranium takes place, resulting in a fissure of the frontal bone, for instance, and that this fissure continues through the orbital roof into the optic canal. The same is possible with the occipital bone. The explanation of the indirect fractures is more difficult. The most likely explanation to me is the following: The part of the orbital roof nearer to the median line is more strongly supported by the body of the sphenoid than the lateral part, which terminates behind in the supra-orbital fissure. In case of a blow, this latter part gives way to a greater extent, and this inequality of support causes the fissure to occur at the line of meeting of these two parts, and this line goes through the optic canal, as a glance at the skull will show.

Although these cases are not very rare, there is no autopsy on record. The severe cases of fracture of the skull, of which a large percentage die, might contain many instances of immediate one-sided blindness; but the unconsciousness in which these patients remain unto their death very likely covers this interesting symptom; on the other hand, in the cases to which I refer the anterior fossa of the base is fractured mainly, and they do not die from the injury. The proof of a fracture of the optic canal as causing the immediate blindness is not a direct one; it is only circumstantial, but of very strong character. To recapitulate: The ophthalmoscope and our knowledge of the semi-decussation of the optic fibers limit the possible lesion to a very short stretch of the optic nerve, hardly an inch long; from its leaving the cerebral cavity to the entrance of the retinal vessels, half an inch behind the eye. Pathology shows that the optic canal, which, from its narrowness, exposes the nerve to compression, is an especially weak point and is concerned in a large percentage of the fractures of the base, to the number of sixty per cent. The clinical symptoms accompanying and following the injury give unmistakable data for the diagnosis of a fracture of the anterior fossa of the base of the skull. To-day hardly anybody doubts the explanation which first was mentioned by Richet, given *in extenso* by Berlin with the publication of Hölder's valuable researches. A number of publications has followed on the subject. Leber, Bernède, Chauvel, and Capron have contributed cases, and every man with an opportunity to see a larger number of eye patients has seen one or more cases of this kind, and therefore the matter is by no means a new one. But in these days of specialism, where the different specialties drift always farther apart and the danger arises that they may part company, it may not be superfluous to bring this matter, which usually comes under the observation of oculists only, before this society devoted to general surgery, and to direct the attention of surgeons to an interesting and important symptom.

REPORT OF A CASE OF PAPILLOMA OF THE VOCAL CORD,

WITH SOME CONSIDERATIONS UPON INTRALARYNGEAL GROWTHS AND THEIR REMOVAL.*

BY CHARLES N. COX, M. D.,
BROOKLYN.

C. G., a colored man, aged thirty-four, occupation waiter, entered my clinic at the Brooklyn Dispensary for treatment of diseases of the nose and throat, March 26, 1889. The patient's general health was good; family history likewise. The symptom for which he sought relief was great hoarseness. The voice was reduced to a rasping half whisper, attended with great labor and exertion—so much so that he said that the continual strain to make himself heard in conversation made life a burden to him. He had first noticed hoarseness about a year before. It had come on gradually. Hoarseness was about the only symptom present. There was no pain; no cough to speak of. Sprays and gargles had been used in vain for several months.

Upon examination with the laryngoscope, which was attended with considerable difficulty on account of a rebellious, thick tongue, which also made subsequent operations and manipulations far from easy, I discovered a wart-like growth springing from the right vocal cord, near the anterior commissure. It was irregular in outline, appearing to be about a quarter of an inch in its short axis and three eighths of an inch in its long axis—the long axis resting on and parallel with the vocal cord. That portion of the right vocal band which was underlying the growth was completely hidden from view. The remainder of the band was congested and thickened, as was its fellow of the left side, from labored efforts at phonation and constant scraping the throat. And this reminds me of an additional symptom which the patient had and which I omitted to mention—viz.: a feeling as if there was a foreign body of some sort in the larynx, which he made frequent efforts to expel by scraping and clearing the throat. The patient did not care to submit to instrumental interference at this time, so that it was nearly two months afterward before anything was done.

On May 23d I anæsthetized the larynx and contiguous parts with cocaine hydrochloride, and removed a small portion of the growth with Mackenzie's forceps for the purpose of having it submitted to the microscope for diagnosis. The tumor was soft and friable, of a grayish color, and was found by the microscope to be a papilloma.

After three or four days I attempted to remove the whole tumor with forceps, but the growth was so soft that it could not be entirely removed with one grasp. The balance was removed at the next sitting, a week later. Thereafter several applications of chromic acid were made to the base of the growth. The subsequent treatment consisted in the use of cleansing and astringent sprays and in the topical application, to the thickened vocal bands, of a forty-grain solution of silver nitrate.

After about two months' treatment the patient left the city for a position in a hotel at a summer resort, and was not seen again until a few days before this article was begun.

The present condition is as follows: There is no sign of reappearance of growth, but the vocal bands are still very much thickened. The voice is very much improved, although it is still somewhat rough; but its production is unattended with effort or weariness, which was the one thing the patient sought relief for. The sensation of a foreign body present no longer exists. The patient, as far as comfort is concerned, regards himself as cured. However, since this much has been done, he feels he would like, if possible, to have the normal quality of his voice restored that he might employ it in singing, of which he is very fond. This, I fear, will be difficult to obtain on account of the hyperplastic condition of the vocal bands.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

Before the days of the laryngoscope morbid growths of the larynx were thought to be very rare, the only means of diagnosis being post mortem or, in a few cases where the growth was large and high up, by direct examination *per os.* One of the first cases on record is that of Koderick, in 1750, which he successfully operated upon through the mouth. The first complete monograph was written by Ehrmann, in 1850 (Histoire de polypes du larynx). His treatise included thirty-one cases of laryngeal growth. Up to 1860 sixty-five cases had been collected, and of these there were only eight or nine in which an attempt was made to remove the growth during life.

Since the invention of the laryngoscope cases have been reported in great numbers. In 1871 Mackenzie published his classical work (Growths in the Larynx), in which he detailed 289, 100 of which he operated upon himself (from 1862 to 1870), the remaining 189 being all the other cases reported in medical literature up to that time. Fauvel saw three hundred cases in fifteen years.

In the treatment of morbid growths of the larynx a distinction must, of course, be made between malignant and non-malignant tumors. The treatment of malignant growths of the larynx is either palliative or radical. The palliative treatment comprises such measures as will relieve pain and dyspnœa and keep up the general condition of the patient.

The larynx should be frequently cleansed by a detergent and antiseptic spray. For this purpose I know of no better agent than a solution made from Seiler's antiseptic pastilles. A spray of borax solution (gr. v to f ℥ j) is also good. A two- to four-per-cent. solution of cocaine sprayed into the larynx will greatly alleviate the pain, perhaps control it entirely for a while, if it be placed in the hands of the patient to use himself at frequent intervals. Insufflations of an eighth to a quarter of a grain of morphine are also very useful. When deglutition becomes painful the patient must be fed by means of the œsophageal tube or by nutritive enemata to counteract one of the frequent causes of death—inanition. Bryson Delavan's alimentation bottle is an admirable apparatus to attach to the œsophageal tube. With this instrument it is not necessary to introduce the tube into the stomach, but simply past the pharyngeal constrictors, when it can be forced into the stomach by the bulb attachment. Before introducing the tube the pharynx and larynx should be sprayed with a four or five-per-cent. solution of cocaine. So soon as dyspnœa occurs, tracheotomy should be performed before the constitution has suffered from impaired respiration.

By this palliative treatment life may be made comparatively comfortable and somewhat lengthened; but I think the present consensus of opinion would suggest an early radical operation in all cases of malignant tumor of the larynx. By a radical operation I mean removal of the whole or a part of the larynx.

If the operation is performed early—as soon as a positive diagnosis is made—it will probably be possible to do a modified laryngectomy, as suggested by Solis-Cohen, which is characterized by retention of a portion of the thyreoid cartilages. Dr. George R. Fowler, of Brooklyn, has successfully performed this operation for epithelioma. He reported the case in the American Journal of the Medical Sciences, October, 1889. In August, 1889, nine months after the operation, the patient was perfectly well and without evidence of recurrence.

As far as I can find out, Dr. Fowler is the first and only surgeon who has performed this operation. He says, in summing up:

> The comparatively small gap left by the incision and removal of the diseased parts and, consequently, lessened traumatism inflicted, the readiness with which the parts filled up by the reparative process, and the firm support afforded for the artificial larynx, together with the great advantages gained by preserving, apparently unimpaired, at least one of the pairs of the muscles of deglutition, will, it is believed, lead to the adoption of this method of operation, to the exclusion of all others, in cases in which laryngectomy is at all applicable.

As an argument in favor of early radical operation, I would refer to that which Morell Mackenzie has pointed out in his work on the throat and nose (vol. i, pp. 155 and 245, William Wood & Co., 1880)—viz., that, owing to the arrangement of the lymphatic system in the larynx, disease of the part does not quickly infect the constitution. This fact favors the prospects of extirpation of the larynx, when the growth is confined to its cavity. Mackenzie says (*op. cit.*, p. 245) that he only knows of one instance in which cancer has developed secondarily in other parts of the body, the original disease having been in the larynx.

Non-malignant growths of the larynx may be removed through the natural upper orifice of the larynx with the aid of the larygoscope, or externally by direct incision into the larynx. In the majority of cases removal can be effected by the intralaryngeal method.

Since the advent of cocaine this procedure has been much simplified. Cases which before would have been relegated to the external operation are now, with cocaine, performed with ease, and that often at the first sitting, without preliminary practice or training. Before the days of cocaine it was often necessary to accustom the patient's larynx to the presence of instruments by daily practice for weeks, or even months, before removal could be effected.

Intralaryngeal non-malignant neoplasms may be removed by caustics, electro-cautery, the finger-nail, sponge, probang, forceps, snare (cold or hot), guillotine, knife, or scissors. The guillotine is really a guarded knife. I think an unguarded knife or scissors should never be used in the larynx. As to the other instruments, each case must determine which is to be used; sometimes one is more applicable, sometimes another. I have never used the finger-nail or sponge probang, but I should think they would be very useful to scrape away small, soft growths.

Caustics are generally used for small, soft growths which can not be scraped with instruments. I think it well, too, to touch the seat of a growth with a caustic, after removal with instruments, particularly when it seems not to have been taken away clean. The best caustic is chromic acid. It should be applied with a probe to which a few crystals have been caused to adhere by heating the former.

To successfully remove a growth by the intralaryngeal method requires the hearty and intelligent co-operation of the patient. Before introducing an instrument, the larynx and contiguous parts must be anæsthetized to such a degree that the patient will not only not gag, but also that he will not make efforts at swallowing. This latter is very annoying to the operator, and I have found it harder to control than the former. To produce this anæsthesia, first spray the base of the tongue, the soft palate, the pharynx, and larynx with a five-per-cent. solution of cocaine. Next, with probe and cotton, apply a ten-per-cent. solution to the interior of the larynx. After from three to five minutes apply more of the ten-per-cent. solution. Ascertain if the parts are thoroughly anæsthetized with the probe; if so, proceed with the operation. If not, a stronger solution, say twenty per cent., should be used. Some cases require a stronger solution than others. Sajous says (Diseases of the Nose and Throat, 1889, p. 387) no less than a twenty-per-cent. solution should be used. I think, however, that in most cases a weaker solution will suffice, and there is a certain danger of systemic effect with strong solutions. Dr. Koller, the discoverer of the anæsthetic properties of cocaine, says, by giving time, one can produce as useful results with a five-per-cent. solution as with a twenty five-per-cent. solution.

A growth of large size or extreme density, or in an inaccessible situation, or of extensive origin, or an unusually nervous or excitable patient, may make an intralaryngeal operation impossible. In the case of very young children also an extralaryngeal method may be necessary. Laryngotomy should not be performed unless there is danger to life from suffocation or dysphagia; and not then until an expert has failed by the intralaryngeal method.

489 GREENE AVENUE.

A CASE OF LEPROSY APPARENTLY CURED.*

By GEORGE HENRY FOX, M. D.

SEVEN years ago (1883) a man with well-marked symptoms of leprosy came to New York from the Sandwich Islands. He was native-born, but his parents were from New England and had gone to the islands as missionaries. For several years before leaving he had had a manifestation of the disease in the form of a patch on the left thigh, and for nearly two years a gradually increasing numbness of the fingers was noticed, especially after writing. Within three months spots had appeared upon his face and back. There was by this time no doubt in his own mind as to the nature of his malady, and, though occupying an official position, he knew that to remain longer would insure his being condemned to lifelong imprisonment and probable death in the leper settlement of Molokai, and hence determined to leave. He first came to one of our large cities, where he was made the subject of a clinical lecture to which reporters were invited, and his case soon became the subject of newspaper discussion. The tone of this discussion was such as to lead people to believe that the advent of this leper was fraught with as much danger to the community as though a man-eating tiger had been let loose in their midst. The patient next came to New York. He begged me in the first place to shield him from the reporters, who, in search of something sensational, were tracking him like a wild beast, and, furthermore, to do all in my power to save him from the terrible fate which he had been led to believe was almost inevitable.

His physical condition at this time was fair, but a more despondent and disheartened patient could scarcely be found.

There were dull, reddish, slightly elevated macules upon the face, back, and hands, with marked anæsthesia of the less recent ones. The fingers of the left hand were bent at nearly a right angle and could only be used with difficulty. They were occasionally the seat of small bullæ. The patient was shown at a meeting of the New York Dermatological Society, and the diagnosis of leprosy was confirmed by all present.

The first step in the treatment of this disease was to assure him that leprosy had been cured, and that his case was by no means as hopeless as he imagined. For three months he was given nux vomica in full doses, with other internal remedies, while chrysarobin was applied locally. The cutaneous lesions became better and worse again, seeming to increase by periodical attacks. The treatment pursued was of doubtful benefit. In June the patient entered the Skin and Cancer Hospital and was given chaulmoogra oil in doses gradually increased from fifteen to sixty drops daily. This was well tolerated by the stomach and apparently productive of benefit. There was certainly a disappearance of some of the patches, increased mobility of the fingers, and improvement in the general condition of the patient. He himself expressed a strong belief that the disease was checked and that he was going to get well, a result for which I was only able to hope. He now determined to meet his wife and children in California and settle down upon a ranch, and, with instructions to continue the use of the oil and report at stated intervals, he left the hospital about the middle of July.

In September he wrote that the spots on his face had entirely disappeared, and that the worst spot (on his back) was scarcely perceptible at times. The numbness and stiffness of the fingers remained the same. In October he wrote that, in spite of the continued use of the oil (sixty drops a day), the hands were again feeling thick and stiff, and that another blister had appeared upon the right middle finger. In June, 1884, he wrote that all of the spots had entirely disappeared, and that he only suffered from the numbness and contraction of the fingers. In September, 1884, he wrote of a well-marked spot on his right hand and numbness of both hands and nose. He had used the oil faithfully, although at some times it was somewhat unpalatable, and he had noticed a marked difference in the quality of oil from different firms. In October, 1885, he wrote: "There have been no more symptoms of the disease in *any shape*. I have enjoyed almost perfect health in every way, and were it not that I still have numbness in my hands, I would not believe that there could be anything the matter with me. I take about a hundred drops of the oil daily, and it does not seem in any way to disagree with me."

In December, 1887, he wrote: "I have taken no medicine of any kind for about two years, and have had no unfavorable symptoms during that time. There has been no sign of any blisters or spots returning, and were it not for the numbness I still feel, I would truly say I am as well as I ever was in my life." In his last letter, dated November, 1889, he reports himself as being quite as well as when he last wrote.

The result of treatment in this case suggests the question as to the curability of leprosy, a disease of which it is often claimed that there is no known remedy. There is no doubt that the majority of cases progress from bad to worse and terminate fatally, but under certain favorable circumstances, such as a change of climate, the disease has repeatedly been observed to undergo at least a temporary improvement, and in a few cases which have been reported the disease appears to have been checked, if not cured. In spite of the gravity of the prognosis which must generally be made, it is going too far to affirm that leprosy is in every case an incurable disease. Some years ago, while on a visit to the lazaretto at Tracadie, in New Brunswick, I saw an old woman, eighty years of age, who had been attacked by leprosy forty years before. Her fingers had been lost by ulceration, leaving mere stumps for hands, but at the time of my visit she seemed in excellent health and spirits, presented no symptoms of active disease, and seemed far more likely to die of old age than of leprosy. In this case it seemed as though the disease had run its course, as it often does in the case of syphilis, and left the patient free from all symptoms. If such a course may result spontaneously, for the woman referred to had never had any systematic treatment for her disease, it seems as though some therapeutic measures might be adopted to cure the disease in at least a small proportion of cases.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

In the case which I have briefly reported a doubt might be reasonably entertained as to the perfect cure of the disease, on account of the numbness and deformity of the fingers which still exist; but this condition should be considered as one of the unfortunate results of the disease rather than one of its symptoms. Not having had an opportunity to examine this patient recently in person, I can not speak as to his exact condition; but certainly his own account of his present condition would seem to justify the title of this paper.

Another interesting point arises in connection with this case as to the relative importance of medicinal treatment and a change of climate. I am inclined to attach the most importance to the latter. It may seem difficult to explain why a disease depending upon micro-organisms should be benefited by external agencies, but the benefit to lepers resulting from a change of climate has been too frequently noted to admit of doubt. The effect of chaulmoogra oil in lessening the symptoms of the disease I have noted in several other cases of leprosy which have been under my care, and I regard it as, beyond all question, the most efficacious remedy which has been employed in the treatment of this disease. The fact that it has failed to effect a cure in many cases, and has been pronounced of little or no value by those who have had opportunities of testing its virtues in the large lazarettos, is an argument of little weight against its efficacy. When a man affected with leprosy is taken from his home and friends, pronounced unclean, immured in a lazaretto with many loathsome fellow-sufferers, and given to understand, as is usually the case, that death is the only portal of escape open to him, the impression upon his mind is such as to counteract the effect of all remedies, and under such circumstances nothing short of a miracle could be expected to effect a cure of leprosy.

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COSTO-STERNAL DISLOCATION.

The anterior extremities of the cartilages of the second, third, fourth, fifth, sixth, and seventh ribs are, during youth and middle age, united to the sternum, which is hollowed out into fossæ to receive them, by means of true joints furnished with synovial capsules and supported by anterior, posterior, upper, and lower ligaments. Dislocation at these joints is generally admitted to be extremely rare, and instances in which it has occurred are well worthy of record. In the Proceedings of the Detroit Medical and Library Association for 1889 Dr. Stoner reports such a case, the patient having been presented to the association for critical examination. A man, thirty-two years of age, was caught between a boat and the breakwater of one of the Lake ports. He was sent to hospital, arriving some twenty hours after the accident. When admitted he was conscious, and had partly recovered from the shock. The slightest movement of his body caused excruciating pain in the chest, back, and left shoulder, these regions being very sensitive to the touch and giving evidence, by great tenderness on deep pressure, of severe injury to the parts within; yet no fracture of the ribs or other bones could be detected. The sternum was depressed (a congenital deformity, according to the patient's testimony). There was a prominence of the right side over the costo-sternal articulations, which, however, was evenly and uniformly rounded, quite unlike the deformity usually seen in dislocations. The case was recorded as "severe contusion of the chest," but the treatment was the same as for fracture. The pain of respiration was much relieved by adhesive straps and bandages. At the time of the patient's admission the temperature was 100·4° F. (38° C.), the pulse 90, the respiration 30; and there was retention of urine. As the rapidity of pulse, the thirst, and the other symptoms of depression continued to increase, a second examination was made a few days later, which revealed not only dullness on percussion—indicative of hæmorrhage into the pleural cavity—but also clear signs of forward dislocation of the cartilages of the fifth, sixth, and seventh ribs from the sternum. Partial reduction by compresses was effected, but the patient was too ill to endure repeated attempts. Under the use of tonics, with digitalis for irregularity of the pulse, he gradually improved, the dullness on percussion disappearing and the vesicular murmur again becoming evident. In about four months from the time of the accident he returned to his work feeling perfectly well. The outlines of the articular end of one of the cartilages remained prominent, indicating the nature of the dislocation. Wiring of the ends of the cartilages to the sternum, as suggested by a member of the association, would have been very dangerous in view of the low condition of the patient.

The literature of the subject is reviewed by Dr. Stoner. A case is cited from Gross in which a man, sixty years of age, fell from a scaffold ten feet high, striking his left shoulder and chest upon a stone slab. He at once experienced violent dyspnœa, and at each inspiration felt something snap and jerk in his side with a noise like the cracking of a stretched finger joint. On examination, this was found to proceed from a dislocation of the cartilages of the last three ribs from the sternum, the pieces playing to and fro during the movements of the chest. Hamilton describes a case in which a sailor fell through a hatchway, sustaining fatal injuries, among which was a dislocation of the sternum from the cartilage of the second rib on each side, and refers to three other traumatic cases, in all of which the cartilages were dislocated forward, citing also an instance in which an ill-developed lad experienced such a dislocation from the simple action of bread-kneading. In this Journal for July 14 and 21, 1883, pages 34 and 62, Dr. Albert N. Blodgett, of Boston, relates in detail two cases from his own practice; in one of them a dislocation of the first and second cartilages and of the clavicle was produced in an adult by the falling of a piano upon his extended arm; in the other a young man suffered dislocation of the fourth, fifth, and sixth ribs from exercising upon the parallel bars of a gymnasium. Dr. Bradley reports in the Medical Record a case of luxation of six ribs and of the clavicle in a patient who was whirled and jammed against a wall by a passing railway car. A few other cases are referred to by Dr. Stoner.

We may draw the following conclusions from his researches in the available literature of the subject: This chondro-sternal dislocation is very rare—perhaps one of the rarest forms of injury that the surgeon has to treat; most of the text-book writers seem to be without personal experience in the matter; any injury which produces this dislocation in a healthy person must of necessity be very severe; repair without deformity is not to be expected.

BALSAM OF PERU AND NEPHRITIS.

The Centralblatt für klinische Medicin for February 13th contains an article on this subject, by W. Brautigam and E. Nowac. The authors recognize the dangers accruing from the administration of certain balsams as tending to induce nephritis, assuming this as specially probable from the use of balsam of copaiba and styrax. As to the possibility of the same result arising from the use of the balsam of Peru, they quote from the recently reported observations of von Litten and Vámossy. These observers state that inunctions and other methods of treatment by balsam of Peru give rise to such symptoms as the presence of blood and of epithelial and cylindrical casts in the urine, Vámossy stating that in four out of twenty-eight cases so treated kidney irritation arose, accompanying which there was albuminuria, the urine voided being of a brown color. Brautigam and his colleague thereupon instituted a series of systematic investigations, using for the purposes of their experiments twenty-two patients suffering from various incipient manifestations of disease, such as pulmonary consumption, pulmonary emphysema, scabies, pruritus, etc. In all, the urine was of normal color and specific gravity. The reaction was not so constantly normal, but in no case did the urine contain albumin or reveal any striking abnormity on microscopical examination before the beginning of treatment with balsam of Peru. This drug was given by the mouth in the form of a twenty-per-cent. oily emulsion, and in pills; subcutaneously in the form of a twenty-per-cent. emulsion, without oil; and, finally, by vigorous inunction. The only abnormity that could be ascertained or assumed as directly resulting from this free use of the balsam was the production of pronounced acidity in the urine, which was found to be due to the presence of hippuric acid in excess.

The investigators assert that the action of balsam of Peru is in no way comparable with that of copaiba, styrax, and their balsamic congeners, so far at least as the mucous membrane and kidneys are concerned. The conclusions at which they arrive may be summed up by the statement that, if balsam of Peru did cause the pathological phenomena recorded by von Litten and Vámossy, it must have been owing to the use of a drug laden or adulterated with irritating volatile oils, known to be frequently present, while the authors had made it the *sine qua non* to conduct their experiments with strictly pure balsam.

MINOR PARAGRAPHS.

THE NEW YORK DISPENSARY.

This institution, commonly called the "City Dispensary," although it is not supported by the municipality, has just completed the first century of its career. During that period, as we learn from its Centennial Report, it has treated the enormous number of 2,142,999 patients—greater, the trustees think, than the number treated by any like institution in the United States. The old dispensary has long been venerable, but it shows no signs of that so-called conservatism that borders on decay; indeed, it seems to have become rejuvenated during the last few years, for its board of trustees includes only one member who has held office for twenty years, and, among twenty trustees, five are physicians. Moreover, in spite of the steady march of the residential quarter of the town away from the locality of the dispensary, and the consequent increasing tax upon the time of the physicians who do its work, the character of its medical officers is as high as at any time within our remembrance, and we do not doubt that it is now a more efficient source of aid to the sick poor than ever before.

PUBLIC VACCINATION IN NEW YORK.

According to the Annual Report of the New York Dispensary for the year 1889, 135 persons were vaccinated in the institution during the year—fewer than were often vaccinated in a single day twenty years ago. According to the Annual Report of the Eastern Dispensary, four persons were under treatment for vaccinia during the year, and 263 had their vaccination scars inspected, but we can not make out from the Report that a single vaccination was done. These two dispensaries' lists of medical officers do not now contain the name of a physician specially charged with vaccination. It was through the instrumentality of the New York Dispensary that vaccination was introduced into New York nearly a hundred years ago, and animal vaccination nineteen years ago; it was an officer of the Eastern Dispensary, the late Dr. Loines, who taught the profession in this part of the country more about the practice of vaccination than could be learned from all other sources together. For many years the two dispensaries named did most of the public vaccination done in New York, and maintained sources of vaccine supply for physicians, the income thus obtained being devoted to the general good work done by them. All this has been blotted out by legislation which, even if it is not technically unconstitutional, is as repugnant to the American idea of government as anything could be—namely, that which empowered a city department to use the public funds to defray the expenses of its animal vaccination service, whereby it has been enabled to underbid these charitable institutions to a degree that has proved ruinous.

THE EASTERN DISPENSARY.

Although not much more than half as old as the New York Dispensary, as we are reminded by its Fifty-seventh Annual Report, the Eastern Dispensary is not perceptibly behind the older institution in renown or in the character of the service it renders. During the year 1889 it treated 61,228 new patients, who were seen by its physicians 106,506 times. This is the greatest number of new patients ever treated at the dispensary in one year, and greater, according to the Report, than the number treated at any other dispensary in New York during the year. An incident mentioned in the Report gives touching evidence of the appreciation in which the work of such an institution is held by many of their poor beneficiaries. A poor woman was found cleaning the steps leading to the dispensary rooms, and, being asked what she was doing, replied: "The dispensary cured me of my sickness. I have no money to give and I wanted to do something, so I thought I would clean these steps." The physicians' statistical tables given in the Report show proof of unusual care in their preparation.

SOCIETY TRANSACTIONS.

The delay usually attending the publication of volumes of transactions is a matter for which the secretary is generally blamed, but for which he is commonly in no wise responsible. It is very apt to depend on the tardiness with which the authors of papers hand in their manuscripts. The Medical Association of Georgia has the following law governing the subject: "No paper shall be read before this association, by title or otherwise, until a complete copy of such paper shall have been placed in the hands of the secretary for publication in the Transactions." It is not uncommon for authors to read from skeleton notes at the meetings, improvising the greater part of what they say. They ramble along in a slipshod way, failing to make their points and taking up time unnecessarily; and then, under one flimsy pretext and another, they worry the secretary out of all patience before he finally gets their productions in a fit state to be sent to the printer. We hope that our Georgia friends enforce their excellent law, and we should be glad to see a like one adopted by all societies that publish their transactions in the shape of a volume.

PARTRIDGE POISONING.

In the provinces of the Dominion of Canada cases of partridge poisoning are not infrequent, but medical attention has been little bestowed upon their symptomatology and treatment. The Nova Scotia Branch of the British Medical Association discussed the subject at its January meeting. The Maritime Medical News reports the remarks of Dr. Campbell, of Halifax, who had found the cause of the poisonous state of the flesh of the birds in the ingestion by them of the leaves and seeds of the *Kalmia angustifolia*, or "sheep-laurel," also known as "lamb-kill." Both the leaves and the seeds are poisonous. After eating of this plant, sheep will foam at the mouth, and lambs become convulsed and may die. In regard to the effects of the poisoned partridge-flesh upon the human heart, Dr. Campbell could not agree with the prevailing belief; he had not found the pulse so weak and slow as some had reported. It has been stated by some that the pulse has been rendered so extremely weak and slow as to be imperceptible. The treatment of partridge poisoning should be with stimulants by injection and by the mouth, preparations of ammonia, alcohol, etc., with heat applied to the feet and warmth to the body generally. There is commonly no need for an emetic, since the poison itself tends to produce free vomiting.

THE WEST END MEDICAL SOCIETY.

This is a private society lately organized, drawing its members, who number upward of twenty, chiefly from among the physicians living on the west side of the city of New York. Dr. W. A. Walker is its president, Dr. C. B. White its vice-president, and Dr. R. N. W. K. Horner its secretary and treasurer. The meetings are held at the members' houses on the first Saturday evening of each month, except July, August, and September. From our knowledge of its members and of the carefulness with which their number is added to, we believe that it is destined to be prosperous and useful. There are many advantages connected with small private societies, and we should be glad to see their number greatly increased; and the neighborhood idea in their formation is not a bad one, as was exemplified by the long and useful career of the East River Medical Association—it brings together the men who most need to know each other, and can not fail to be of material benefit to them.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 8, 1890:

DISEASES.	Week ending Apr. 1.		Week ending Apr. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	2	6	3
Scarlet fever	72	9	81	10
Cerebro-spinal meningitis	4	1	2	2
Measles	224	11	250	14
Diphtheria	108	28	104	34
Varicella	2	0	9	0

The Medical Association of Georgia will hold its annual meeting in Brunswick on Wednesday, Thursday, and Friday, the 16th, 17th, and 18th inst., under the presidency of Dr. J. B. S. Holmes, of Rome. The programme gives the following titles: Aseptic *vs.* Antiseptic Surgery, by Dr. S. C. Benedict, of Athens; Railroad Surgery, by Dr. H. McHatton, of Macon; an address, by Dr. W. F. Westmoreland, Jr., of Atlanta; The Female Urethra, a Source of Trouble likely to be overlooked in our Gynæcological Investigations, by Dr. K. P. Moore, of Macon; Hyperæsthetic Endometritis, by Dr. G. H. Noble, of Atlanta; Rare Experience with Erysipelas in Eye Surgery, by Dr. J. M. Hull, of Augusta; The Importance of Chemical and Microscopical Examinations of the Urine, by Dr. H. J. Williams, of Macon; Progress of Ophthalmology and Rhinology, by Dr. R. O. Cotter, of Macon; Cardiac Neurasthenia, by Dr. A. C. Davidson, of Sharon; Stricture of the Male Urethra and Some Forms of Neuroses, by Dr. R. O. Engram, of Montezuma; and The Climate of Brunswick, Ga., by Dr. J. A. Butts.

Change of Address.—Dr. Charles H. Wilkin, to No. 55 West Thirty sixth Street.

Society Meetings for the Coming Week:

Monday, *April 14th:* New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *April 15th:* Medical Society of the State of California (first day—Los Angeles); New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Ogdensburgh (N. Y.) Medical Association; Medical Societies of the Counties of Kings and Westchester, N. Y.; Passaic, N. J., County Medical Society; Baltimore Academy of Medicine.

Wednesday, *April 16th:* Medical Association of Georgia (first day—Brunswick); Iowa State Medical Society (first day—Des Moines); Medical Society of the State of California (second day); Harlem Medical Association of the City of New York; Medico-legal Society; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society; Windham, Conn., County Medical Society (annual—Plainfield); Middlesex, Mass., South District Medical Society (annual—Waltham).

Thursday, *April 17th:* Medical Association of Georgia (second day); Iowa State Medical Society (second day); Medical Society of the State of California (third day); New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; Tolland, Conn., County Medical Society (annual); New Bedford, Mass., Society for Medical Improvement (private).

Friday, *April 18th:* Medical Association of Georgia (third day); Iowa State Medical Society (third day); New York Academy of Medicine (Section in Orthopædic Surgery); Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *April 19th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 6, 1890.

The President, Dr. Alfred L. Loomis, in the Chair.

The Ultimate Results of Laparotomy for Diseases of the Uterine Appendages.—Dr. H. C. Coe opened a discussion on this subject. He referred to the great difficulty of keeping patients under observation for a sufficient length of time, say from two to five years after an operation. It was not easy to trace such patients when they had once left the hospitals. The dispensary physician was really in a better position to judge of the ultimate results of laparotomy than the operator. It was a question whether recovery was synonymous with cure. Assuming a perfect operation for the removal of both ovaries, no doubt gratifying results had been obtained therefrom, even to the saving of life. As to the liability of patients to become insane after such operations there was a want of unanimity on the part of observers. It had been urged that most of the cases in which serious mental disturbances had supervened upon operation were open to suspicion, and that the minds of such patients were generally known to have been previously affected. It had been contended that ten per cent. of the patients became insane after removal of the tubes and ovaries, but probably this was an exaggerated statement. All who had to deal surgically or otherwise with cases in which the patients had been previously the subjects of laparotomy, had agreed as to the existence and persistence of intrapelvic complications. Constant pain, congestion of the uterus with vesical and intestinal disturbances, persisted for years, symptoms directly due to intrapelvic indurations or adhesions which certainly might have existed before the operation, but also might have resulted from a localized peritonitis following it. Indurations around stumps of the broad ligaments were sufficient to cause pain, and intestinal adhesions were of very common occurrence, and these, even if slight, would give rise to pain. There seemed to be no sure means of avoiding these results. It was impossible to predict that a localized peritonitis would not ensue after laparotomy, no matter how favorable the case might be.

The speaker then cited a number of typical cases illustrating the possible unsatisfactory results contingent upon operative interference with the uterine appendages. Of these the following is a fair example: Miss L. had her tubes and ovaries removed in 1885 for dysmenorrhœa. She had come under the care of the speaker shortly afterward and had so remained until 1889. During this time she had never been free from pain, and treatment had failed in affording her any relief. The patient's condition had become at length so serious that a second operation was insisted upon, and an exploratory laparotomy was accordingly performed in 1889. Extensive inflammatory products were found involving the stumps, the kidney, and the ureter. Such experiences might be readily adduced from these laparotomy cases to prove that there was a large number in which the subjects of the operation were by no means permanently benefited so far as relief from pain was concerned. The conclusion was forced upon the careful observer that recovery from laparotomy was not synonymous with cure of the condition for which it was undertaken.

Dr. W. Gill Wylie thought that if the operation was thoroughly done in properly selected cases the results would be sufficiently good to insure its position as admissible and desirable. The selection of cases suitable for such operative interference was a material factor. If the tubes and ovaries were removed before the woman became a chronic invalid, results as satisfactory as from any other surgical procedure might be expected. Cases in which the women were already broken down in health, and those in which the nervous system had been abnormal from birth, or become so soon after, were not at all likely to give perfect results. Then a woman might have the ovarian or tubal troubles complicated by many other diseases, and the removal of tubes and ovaries would not cure the latter conditions. A great many patients were operated upon unnecessarily. He had never advocated that the operation should be undertaken for the relief of reflex nervous symptoms, because he believed the agency of the tubes and ovaries in producing these symptoms was very much overestimated. The most important point toward securing an ultimate favorable result was to do the operation completely. He believed the bad results came from failure in this particular. The ovary or ovaries must be removed entirely and no pyogenic membrane be left, or unfavorable results would ensue. Another cause of trouble was the ligature becoming septic in passing it through pyogenic material. The case might do well enough at first, but there would be an indurated spot arising at the site of this septic ligature. Insanity after this operation was nothing like so common an occurrence as had been stated and as the speaker had at first believed. It might occur, of course, but the possibility was equal after any formidable operation. The effect of the operation upon the nervous system and physical development, if undertaken upon young girls, would be very bad, but if undertaken after puberty the effect was just about the same as that from the occurrence of the menopause, and some reflex symptoms might be expected. A woman in perfect health should be able to pass the menopause without trouble, but this could not be expected from one who had suffered from prolonged uterine disease. He took issue with those who persisted in considering adhesions or scar tissues as comprising disease. Such tissue did not give trouble unless it interfered, by contact or contiguity, with some organ already the seat of disease. It was of course more difficult to achieve satisfactory results when the case was complicated by malignant disease or fibroid tumors. It was also quite easy to overlook conditions in the uterus as the possible causes of many of the painful conditions persisting after the operations undertaken for the disease of its appendages.

Dr. C. C. **Lee** gave the conclusions to which he had been led after the performance of one hundred and three laparotomies. He had never seen a case of epilepsy or hystero-epilepsy or any of the neurotic affections cured by removal of the uterine appendages. Purely neuralgic patients, or those with dysmenorrhœa, would some of them improve, but the benefit had been for the most part fitful and uncertain and less than he had hoped to obtain by this forcing of the menopause. In salpingitis, with or without abscess, cystic or tubal pregnancy, chronic oophoritis, and ovarian cyst, laparotomy offered the only chance for restoration to health.

Dr. H. T. **Hanks** thought that recovery in many of the cases under discussion did not mean cure, and that it was better to select the cases for operation. When there existed so many neurotic symptoms, with various pathological changes present in the pelvic cavity, he did not believe it justifiable to remove the ovaries and tubes.

Dr. J. E. **Janvrin** said that from the inception of the practice until the last three or four years he had never performed the operation of removal of the uterine appendages, except as he might have to do this operation in connection with the removal of ovarian tumors. Since 1885, after watching quite a number of cases and treating them for a long time, and becoming convinced that under other methods of treatment the patients were getting worse, he had deemed it right to operate. He concurred in the suggestion that all patients with pyosalpinx, catarrhal salpingitis, and oophoritis should be operated upon. After giving such patients the benefit of prolonged and careful treatment, and finding that they were really getting worse, he had operated, and had had no reason to complain of the results. All of the cases of pyosalpinx had done well, the patients continuing in perfect health after the operation. He was, however, convinced that if, after the making of an abdominal section, the touch, sight, and other means of examination demonstrated the tube as patulous and the ovaries as not bound down by considerable adhesions, it would be better to withhold further interference and close the abdominal cavity. Dr. Wylie had stated that many of the untoward results following laparotomies were due in a great measure to imperfections in the performance of the operations, and the leaving behind of some portions of the ovaries, ligaments, or tubes to be involved in the cicatrix. No doubt this was frequently the case, but the speaker was sure he had witnessed operations in which this fault did not occur. Any resultant peritonitis would certainly give rise to thickened tissue, which would cause decided pain without any portion of the ovaries or tubes being necessarily left behind.

Dr. A. P. **Dudley** said he had performed seventy-four laparotomies, of which he gave a clinical *résumé.* In five of these, of which he was able to give accurate account, the patients were suffering from pain, and in all these he had used silk to ligate the pedicle. Localized peritonitis had resulted with adhesions, which could be readily made out at the present time. He thought that the hard silk suture was responsible for many of the evil results. Again, he thought it possible to guard against the occurrence of inflammatory conditions by insuring early movement of the bowels. It was his custom to use saline cathartics for this purpose. He thought it was well to char the stump with carbolic acid or the cautery, and he would endeavor to leave the pelvic cavity dry. Catgut might be used as a ligature, of sufficient size to hold the tissues for four days. He did not leave any foreign body to do mischief. He was not afraid to use it, and had not seen secondary hæmorrhage occur. He did not agree to the view that laparotomy in such cases was not a cure; it was so as far as it went, for a woman whose tubes and ovaries were removed could not have oophoritis and salpingitis. He should never resort to laparotomy in cases of hystero-epilepsy or insanity.

Dr. E. H. **Grandin** said that he had avoided laparotomy, because he had found that the time-honored routine treatment associated with the judicious use of electricity enabled him to obtain a symptomatic cure, satisfactory to himself and his patients. He excluded from this class of cases pyosalpinx, ovarian cysts, malignant disease of the ovaries, and dermoid cysts.

Dr. M. **McLean** said that it had been his experience to have patients come to him for relief upon whom operations had been performed at the hands of the best men, and he had been unable to do anything for their sufferings. He supposed that this operation had come to stay, but it should certainly be restricted to selected cases; those operations undertaken not only for neuroses, but for many of the inflammatory conditions, should be thrown out as unnecessary. He had found a number of cases in which intestinal adhesions had produced the trouble; a large number were also of neuralgic origin, in which the pains were only increased by operations. Much chronic inflammatory trouble often followed this interference, while cases of melancholia occurred where no such state of mind had previously existed.

Dr. W. T. **Lusk** said he firmly believed that the operation was of the utmost value as an addition to uterine therapeutics, and that it had been the means of liberating many women from persistent suffering, and had perhaps saved many others from death. He had been in no hurry to begin the removal of the appendages, but had been forced into it by seeing perforation of the tubes and other such results followed by the death of the patients. There were a number of inflammatory conditions of the tubes in which treatment was efficacious and in which it ought to be tried. In catarrhal conditions in which the tubes remained patulous, prolonged and properly directed treatment would result in absolute cure. The more he saw of these cases the more he was inclined to insist that it was unnecessary every time a woman had a swollen tube to advocate its removal. He was not absolutely satisfied as to the results of operative procedure. He had now about completed his first hundred laparotomies, and had arrived at the conviction that the operation was one devoid of danger. A certain amount of misery had been entailed by some of his earlier patients returning to the hospital apparently in good general health but suffering from pelvic pains or some form of melancholia. Women in the higher ranks of life, whose ovaries and tubes had been removed and in whom the change of life had been produced prematurely, were apt to become melancholic when they came to reflect on their lost chances of maternity. All these points were of the utmost importance and should be taken into consideration. He had been led to ask himself the question, whether it would not be better to resort to treatment by pressure or leave the cases to time rather than run the risk of causing the mental depression to which he had alluded. He thought that three out of four cases would get well under careful treatment.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of February 27, 1890.

Dr. Egbert H. Grandin in the Chair.

Ovarian and Ligamentary Monocysts.—Dr. Edebohls reported the case of a patient from whom he had removed these two tumors. The young woman was twenty-four years of age and unmarried. She had enjoyed good health until about three years ago. Then menstruation, which had previously been normal and regular, became painful. A short time before consulting the speaker she had noticed progressive enlargement of the abdomen, confined to the right inguinal region. Examination had shown the uterus to be crowded bodily against the symphysis by a soft semi-fluid tumor. It was made out to be an intraligamentary cystoma. Above this there was another tumor, four or five inches in diameter, situated in the left iliac fossa. This could be rolled over to the left inguinal region or displaced into the splenic or hypochondriac regions. When let alone it found its way again into the right inguinal region and stayed there. It was supposed to be a cystoma of the right ovary. Laparotomy had been performed three weeks ago. The tumor in the right iliac fossa was found to be connected with the left ovary by a long pedicle which reached across the abdomen. The Falloppian tube was tied off close to the uterus and the ovary was removed with the tumor. The other tumor was an intraligamentary cystoma starting from the right side. It had occupied a position immediately behind the uterus, to which it was adherent. Free hæmorrhage had occurred on separating it. The tumor had contained serum and had weighed two pounds and a half. Both the tumors removed were monocysts. The patient had suffered profoundly from shock, but had made a good recovery, being out of bed in two weeks.

Fibro-myoma of the Vagina.—The next case reported by the speaker was one of fibro-myoma of the vagina, projecting through the labia. It was attached by a pedicle to the posterior vaginal wall just within the introitus vaginæ. The patient was also suffering from lacerated perinæum and cervix. The tumor was transfixed and removed. On microscopical examination, it was found that its structural components, to a considerable extent, resembled those of the uterus; utricular glands were also found in it. The reporter's theory was that this growth had originally occupied the interior of the uterus, that it had been expelled therefrom and had found a suitable nidus for its reattachment at the lacerated perinæum.

Imperforate Hymen.—The third case narrated by the speaker was that of a young woman who had been married two weeks. Attempts at intercourse on the part of the husband had failed, as entrance to the vagina could not be effected. Examination had revealed the fact that the hymen entirely occluded the canal. A very minute opening was found which had been sufficient to allow the escape of a little blood. The membrane was very tense and resistant. The speaker had dissected around the membrane, removed it entirely, and then stitched the mucous membrane above to that below with continuous catgut sutures. The wound had healed kindly.

A New Electrode.—Dr. A. H. Goelet showed a new electrode for intra-uterine electrical treatment. He alleged for it advantages over the well-known platinum instrument of Apostoli on the score of flexibility, adaptability by sets of different sizes to a universal handle, and cheapness, the expensive platinum being only used to form a tip to the electrode.

The Treatment of Pelvic Hæmatoma and Hæmatocele by Galvanism.—This was the title of a paper by Dr. Goelet, who said that the terms hæmatoma and hæmatocele were used together because, in a general way, the treatment of both would be described as the same. The term hæmatocele denoted an effusion of blood into the peritoneal cavity of the pelvis, and hæmatoma signified an effusion of the same into the pelvic cellular tissue, or between the folds of the broad ligament and under the peritonæum. Dr. Goelet did not think that abdominal section was ever justifiable in these conditions. There were four chief indications to be met in the treatment of these accidents. First, to check the hæmorrhage when the patients were seen early enough; secondly, to produce coagulation of the effused blood as quickly as possible and prevent a recurrence of the hæmorrhage; thirdly, to relieve the pain and inflammatory complications; and, fourthly, to effect absorption of the clot and prevent the formation of abscess. Shortening the confinement to bed was also one of the objects of treatment. To meet the first and second indications, the positive pole was used, conjoined with absolute rest in the horizontal posture until all danger of a recurrence of the hæmorrhage had passed. The positive pole acted by promptly relieving the congestion which had provoked the effusion and caused its continuance, and by producing a rapid coagulation, not only of the effused blood, but also in the open end of the ruptured blood-vessel. This might be accomplished, first, by an application through the vagina by means of an electrode, well protected to prevent a local caustic action, and a current long continued, commencing with 30 or 40 milliampères and very gradually increasing until 100 milliampères was reached. The electrode connected with the negative pole should be so placed as to include the mass directly between it and the positive electrode in the vagina. Various devices would have to be arranged in the way of electrodes to accomplish this. It was needless to say that the arrangement for turning the current on and off should be such that it could be done very gradually, and it was always better to use a rheostat for this purpose. This application might be repeated once or twice a day, according to the exigencies of the case, until the end to be obtained had been accomplished. The second method of meeting these two indications was by the positive vaginal galvano-puncture. This treatment was restricted to hæmatoma and the vaginal complications in hæmatocele. For the relief of pain the positive pole was likewise used, and it acted by relieving the engorgement and producing rapid contraction of the clot, thus removing the pressure upon the misplaced organs. Tumors of this kind, which had been previous to treatment extremely sensitive to the touch, were found afterward to allow of considerable manipulation. To meet the fourth indication—to hasten absorption—it might become necessary to use the negative pole, although the positive usually answered. This was especially true of the positive galvano-puncture, when the puncture was confined to the capsule and did not penetrate to the interior of the mass. Frequently complete absorption would take place in a small hæmatoma in from a week to ten days after one puncture of 50 milliampères. The negative pole should not be used until the clot was firm and all inflammatory action had subsided, and it would likewise be contra-indicated as long as pain existed, or when its use was followed by pain. With this pole the vaginal applications only were made. After the galvano-puncture, rest should be insisted upon until all local irritation had subsided. By this method of treatment the whole course of the disease had been cut short in many instances, and the general condition, instead of deteriorating, as was usual in these cases after prolonged confinement in bed, had gone on steadily improving, so that when the patient was ready to get up she was in a fair condition.

Dr. A. F. Currier said that he had had no experience in the treatment of these diseases by the method advocated by Dr Goelet. He had hitherto followed the old-fashioned way o doing very little if anything. He had seen several cases, and they had been treated by rest. He thought this was hardly satisfactory from a scientific standpoint. The point made by the author of the paper was an important one—that laparotomy was never indicated unless the hæmatocele was producing threatening symptoms. To one experienced in laparotomy the operation of cutting down to the ruptured vessel, tying it, and cleaning out the clots, was one of the most reasonable of those done on the abdominal cavity. He did not think that electricity would supersede this method of treatment—at least the time had not come yet. He was becoming, however, more and more impressed by the advantages offered by electricity. He now used it almost daily, and was getting some very satisfactory results. He believed that the method was one which required personal experiment before it could be accepted. Many of the statements of those who had met with great success with this agent read like exaggeration, and it was only when one became familiar with the variety of effects to be produced by currents of different intensity that the real power of the agent became appreciated. It had been stated at a recent meeting that the milliampèremetre was not an essential. Since the speaker had employed it systematically he had found its use insured greater accuracy in work, and was now convinced that the opinion expressed was an erroneous one.

Dr. R. Waldo had had no experience with electricity in the treatment of hæmatocele. He had treated the septic form by opening into the vagina and draining the abscess in that way. The patient had recovered, no complications supervening. He could hardly believe that electricity was going to replace laparotomy in this class of cases. He held that in hæmatocele due, as many of the cases were, to a ruptured tubal gestation sac, the indications were to open the abdominal cavity and arrest hæmorrhage before the patient was dead or the evidences of loss of blood were too pronounced.

Dr. J. H. Fruitnight thought that the expectant method was by no means a scientific one. The element of time was quite important in these cases. It was often many weeks before the patient recovered, and the long confinement to bed sapped the health considerably. If something could be done by the use of electricity to shorten this period and to lessen the consequent danger of septic trouble from the decomposing blood, then he thought it would be a great advance upon the old method.

Dr. H. C. Coe thought the most important question in respect to these conditions was that of accurate diagnosis. The diagnosis of hæmatocele was not always so easy as it was laid down in the text-books. He could recall many cases in which the discovery of hæmatocele had been made by accident. He did not think that any one with only a superficial knowledge of electricity should attempt its use in these cases. Tapping an hæmatocele was rather a dangerous procedure. He had in two cases set up a peritonitis by it, and was inclined to favor laparotomy. He had seen four cases in which hæmatoma had been positively diagnosticated, and correctly so, from hæmatocele. Incision through the vagina had been followed by admirable results, neither hæmorrhage nor septic symptoms supervening.

The Chairman said it must be granted that the experimental treatment of these affections was very discouraging. Still, unless he was prepared to interfere actively, he would rather not do so at all except in the presence of urgent symptoms. The old-fashioned plan of rest in bed and the use of the hot-water douche would cause absorption of the effused blood. Puncture he was certainly afraid of. Perhaps in future he might conclude with Dr. Goelet that puncture by the electric needle did not carry the same dangers, and was not so likely to be followed by suppuration as puncture by the trocar or knife. His own experience with hæmatocele had been limited. He had only seen three cases, and these he had let alone. He was glad he had done so, as the patients had ultimately got well. Of course when symptoms of suppuration ensued there was no longer any choice, and then probably the preferable method was to do laparotomy and take the pus sac out entire. Free incision per vaginam, curetting, washing out the cavity with antiseptic astringents and so-called alteratives, would not always result in a cure. A patient might carry a sinus for a number of years, or it might close up and more pus accumulate and then rupture into the peritoneal cavity. Therefore, in urgent cases, he would advise laparotomy. As to diagnosis, he failed to see that it made much difference. Practically an hæmatocele became extraperitoneal. The blood became encysted and was thus shut off from the peritoneal cavity. Hæmatoma was in the same condition, all the blood being encysted. The site of the tumor should be a guide. Hæmatoma would be found on one side or the other, hæmatocele generally behind the uterus in Douglas's *cul-de-sac.*

Dr. Goelet said that he supposed he had treated some twenty or twenty-five cases. He found that when he used electricity he required the mildest current only to insure relief from the pain. He used the positive pole for the control of the hæmorrhage and got along with little or no power. He had punctured in some cases of hæmatocele and had got good results, but in ordinary cases he was opposed to it and did not think an attempt should be made to empty a hæmatoma or an hæmatocele unless urgent necessity arose, such as threatening suppuration.

Miscellany.

The Hypodermic Treatment of Asthma with Strychnine and Atropine.—The following is an abstract of a lecture delivered by Dr. Thomas J. Mays in the course of evening lectures given by the Faculty of the Philadelphia Polyclinic in the course of 1889 and 1890:

Asthma is essentially a spasmodic neurosis of the pneumogastric nerves. Its characteristic symptoms are its sudden onset and subsidence, its proneness to recur during the night, the sense of oppression in the chest, the short, dry, wheezy cough, the marked dyspnœa, the fear of moving on the part of the patient, his utter misery, and his complete transformation into apparent robust health as soon as the attack is over. The paroxysms may be rare at first, but tend to appear more frequently and to last longer, until finally there is no complete intermission between them.

The exciting causes of asthma reside either in or outside of the lungs. Dust or any other offending material suspended in the air, which, on being inhaled, produces irritation in the sensitive nerve-endings of the bronchial mucous membrane, is among the most common causes. The causes outside of the lungs may reside in the nose, stomach, liver, intestines, uterus, etc., or some specific cachexia. It is noteworthy that disorders of all the organs which are supplied by branches of the pneumogastric nerves are most liable to excite an attack. It is doubtful, however, whether, without the peculiar predisposition, any degree of disorder in any or in all of these organs would have the power of inciting an attack.

The aim of treatment is (1) to alleviate the attack and (2) to prevent its recurrence. To achieve the former, atropine, morphine, lobelia, stramonium, chloral, chloroform, nitroglycerin, nitrites, pilocarpine, etc., have been used, and various measures have been employed for the purpose of breaking up the abnormal causal connection which exists between other organs and asthma. It must not be forgotten, however, that a general lowering of the nerve tone of the body is often as much the cause of disease in other organs as it is of asthma in the lungs, and hence by invigorating the nervous system the asthma as well as its concomitants disappear.

The possibility that strychnine, given hypodermically, might be of value in treating asthma was first suggested to me by the good results which were obtained by Dr. Echeverria in the treatment of epilepsy with this alkaloid. Asthma is closely allied to the latter disease, and that which benefits the one should also benefit the other, at least on theoretical grounds. I have been using it daily in treating asthma during the last six months, and I believe with more prompt and more definite results than can be obtained from any other single drug. My earlier cases were all treated with strychnine alone, but, from a varied experience, I apprehend that the addition of atropine enhances its action somewhat, at least in old and stubborn cases. Below appear the histories of some of the cases which were treated with these agents alone, and the first three were treated with strychnine alone and the last three with the addition of atropine. I begin with one fiftieth of a grain of strychnine and one one-hundred-and-fiftieth of a grain of atropine daily, gradually increasing the former to one twentieth or one twenty-fifth of a grain and the latter to one one-hundredth of a grain. After a thorough impression is made on the disease the drugs are administered every other day, and, as the patient improves, are gradually abandoned. While some cases get well under this treatment alone, necessity in others demands that the influence of these agents is fortified by efforts which seek to control the causes of the attack, as well as by measures which help to build up and fortify the general system.

Case I.—Male, aged twenty-five, was first seen October 12, 1889. For some time he complained of constant cough and nightly attacks of shortness of breath. The attacks came on suddenly about midnight, and subsided in a few hours.

Physical Signs.—Sibilant and mucous râles over the whole chest. Administered one fiftieth of a grain of strychnine hypodermically. He had no attack the following night and slept well. The cough also improved. He received daily injections of the same dose for three days; afterward this was increased to a twenty-fifth of a grain every other day. By the 24th of the same month the physical signs had all disappeared, and he was discharged. He received nothing but strychnine.

Case II.—Female, aged thirty, consulted me in November, 1889. Had an occasional attack of asthma since girlhood. Five years ago her ovaries were removed, and since that time her asthma is decidedly worse, recurring nearly every night at the present time. She also coughs and expectorates a good deal. Very little physical evidence of disease was found in her lungs. She was placed on strychnine injections, at first every day, and in doses sufficient to impress the system. Her attacks gradually diminished, and she had no return of them for six weeks, after which she failed to report. In addition to the strychnine, she received cod-liver oil and phenacetin, the latter in four-grain doses three and four times a day.

Case III.—B., male, aged thirty, came under observation on December 1, 1889, suffering from asthmatic bronchitis for a number of years. The attacks of asthma appear nightly, and are preceded by cough and expectoration; compelled to sit up for several hours during every paroyxsm. The cough-sound simulates that of pertussis. Losing flesh. No dullness, but his lungs abound in fine râles toward the base of the chest. The strychnine injections relieved the cough and shortened the duration of the dyspnœa in a very short time. In the course of four weeks he considered himself well, although there were still some râles at the base. Besides the strychnine, he received quinine, iron, and ammonia.

Case IV.—M., Male, aged thirty-one, plasterer, seen on November 14, 1889, when he gave the following history: Cough for five or six years, yellow expectoration, and sudden attacks of shortness of breath, which usually come on about three or four o'clock in the morning and sometimes continue for two or three days, which, during the last year, became more marked than before. He is unable to follow his vocation. No dullness. Sibilant and mucous râles over the whole chest. He received a thiry-third of a grain of strychnine and one two-hundredth of a grain of atropine hypodermically.

November 20th.—Dyspnœa on exertion improved. He has had no attack of asthma since the first injection. Says he feels better than he has for the last two months. Before he received the injections he was compelled to inhale the fumes of a "patent remedy" every morning before he was able to rise. This is no longer necessary. The injections were continued nearly every day until November 30th, when he felt able to go to work. Was seen on December 19th. Been at work ever since, and, with the exception of two slight attacks, he has had no return of asthma. Prescribed hypophosphites. No more injections.

March 14, 1890.—He reports that he has had no asthma since December last; sleeps well; cough slight; able to follow his trade for the first time during the winter season for two years. Chest clear of râles, excepting a few at the base.

Case V.—W., male, aged thirty-seven, had asthma since he was a child. His father died a drunkard, and patient is addicted to alcoholic excess. On October 17, 1889, he received a fiftieth of a grain of strychnine about every other day until the 16th of November, with but slight amelioration in his condition. On this date he received a twenty-fifth of a grain of strychnine, and a one-hundredth of a grain of atropine. After this time the attack abated somewhat, and in the next six weeks he had but one slight attack. He occasionally imbibed too much liquor while under treatment. At this period I lost sight of him, and am unable to say how he is at present.

Case VI.—H., male, aged fifty-one, clerk, was first seen on December 2, 1889. Asthma for thirty years. Daily attacks during the last ten years. Cough and dyspnœa constant. He has been unable to lie down to sleep for eight years; spends nearly all his time sitting in a chair. The only relief he has is from smoking "Jamestown weed." Appetite good; bowels irregular; stools changeable in color. Passes about half a pint of urine in twenty-four hours. Itchiness over whole body. Much distress in the præcordia. Dropsy of the abdomen, scrotum, and lower extremities. His legs and abdomen are swollen so much that he is unable to wear his former sized trousers, and the dropsical serum oozes so copiously through the skin below the knees that his drawers and socks become thoroughly saturated and have to be changed two or three times each day. No dullness. Marked blowing inspiration in apex of right lung. Large and fine mucous and sibilant râles abound over the whole chest; ten per cent. of albumin in urine; weight one hundred and eight pounds. His mother and brother died from asthma. Strychnine and atropine daily; afterward, every other day. To relieve the dropsical effusion and constipation, concentrated doses of magnesium sulphate, alternated every other day with sodium phosphate. He also received seven grains and a half of antipyrine, powdered digitalis-leaves, quinine, of each a grain, every four hours. On December 13th the albumin had entirely disappeared from the urine and the dropsy was very much improved. Passed two pints of urine and his stools were of normal color.

December 24th.—No asthma since treatment began. He is now able to lie down and sleep without waking. Takes the antipyrine, digitalis and quinine only three times a day. Began taking cod-liver oil on January 17, 1890. Feels very good; abnormal physical signs have all disappeared from his chest. Not a trace of dropsy.

March 18, 1890.—No asthma since he is under observation. Weight one hundred and fourteen pounds and a half.

[The last two patients were exhibited during the lecture.]

Experience with the hypodermic use of these drugs in a number of other cases of asthma which I have under observation at the present time convinces me that they are a valuable addition to the armamentarium of asthmatic therapeutics. Not only have I used these agents in asthma, but also found them of service in treating other forms of cough and dyspnœa.

The Structure of the Red Corpuscles.—Dr. E. W. Ruggles writes from Vienna: While in Buda Pesth, Hungary, I became acquainted with Dr. Francis Hoegys, the author of the following article, and, being interested in his researches regarding the structure of the red blood corpuscles, have arranged this partly translation, partly extract, which will, I hope, interest those of your readers who are engaged in the same branch of medical investigation.

While making investigations in the pathology of children's diseases arising from anæmia, I made the following discoveries, which seem to throw new light on the structure of the blood-corpuscles. Making a drop of fresh human blood adhere to a slide, and putting over it a cover-glass, I introduce a small quantity of the following solution:

Zinc. sulph., 0·50; camphoræ, 0·25; aquæ destil., 100·00. M· he following changes are then to be noticed in the red blood-coruscles: They immediately become spherical, and at the same time a ark substance withdraws to the boundary of the sphere, and pierces rough the cellular membrane like a bud.

(To avoid confusion, it will be well to state here that the so-called dark substance" is not really of darker color, but appears so owing to s having a higher refractive power than the remaining part of the ell substance. The author here assumes a cell membrane, which he ter endeavors to demonstrate.)

This bud remains in connection with the larger part of the dark ubstance which remains in the cell, and is evidently a continuation of . At the same time that this tiny bud pierces through the cellular embrane a depression appears at the opposite side of the cell. This epression is of about the same size as the bud, varying with it in diferent corpuscles. After this change has taken place, the body of the ed blood-corpuscles becomes pale, but remains transparent and homoeneous, as do also the bud and the dark substance within the cell. In either of these substances can you observe folds, granules, or network. here is no trace of a nucleus. That part of the dark substance of igher refractive power which remained within occupies one third to ne fourth of the cell, and assumes a curved form, the convexity of hich is directed toward its cavity.

But the whole of the dark substance never leaves the cell, not even hen you produce, by tapping the cover-glass, such a fluctuation and ollision of the cells that the buds fall off and swim in the fluid.

When this occurs the membrane at the point where the buds were ituated retracts a little, and at the same time the depression on the pposite side disappears. The dark substance, which remained within he cell, disappears, the cell loses its globular form, becomes flat, and wims like a disc, with sharp outlines.

When the bud is turned toward the tube of the microscope, you can ee through its substance, which is transparent as glass, the place vhere it is connected with the cellular membrane. This appears as a ircular hole, through which is seen the interior part of the cell. When he depression is turned toward you, and the bud downward, you can ee, through the cell membrane, the dark substance, and through this he circular orifice which forms the boundary between the bud and the ell.

When the bud is shaken off, the circular orifice is to be seen for a hort time, but only till the dark substance which remained behind disppears. After the cell has become flattened the hole is not to be seen t all.

The occurrences are quite similar in cells containing nuclei. If you nix frog's or chicken's blood with the same fluid, the oval blood corpuscles also become spherical. A dark substance separates and withlraws to the boundary of the cell, where it penetrates through the linng membrane and assumes the form of a bud. At the same instant he membrane opposite the bud becomes depressed, but the depression s not so deep as in the corpuscles without nuclei. The depression almost touches the nucleus, which becomes perceptible on the addition of the fluid, and assumes sharp outlines in its whole circumference, except at one of its poles, which is imbedded in the contracted dark substance. It appears remarkable that the pole and never the side of the nucleus is so imbedded. This change is always seen even when the nucleus is distorted by the depressed membrane.

When frog's blood-corpuscles are beginning to decay in a preparation which is becoming dry, it happens very often that the nucleus falls out of the dark substance, and sometimes out of the cell itself, and becomes free. This shows that the limiting membrane on the depressed surface is destroyed or ruptured. But in such cases the contracted dark substance, together with the bud, remains intact till the preparation becomes perfectly dry.

In this fluid the cell membrane is not altered, as can be demonstrated by the addition of acetic acid, when the red blood-corpuscles, especially those with nuclei, become smooth and assume their former globular form. In such cells, at a certain position of the tube, the double outline of the cell membrane is plainly to be seen.

The changes which this fluid causes are quite the same in nucleated as in unnucleated corpuscles, and, when they have once taken place, they remain in the same condition for weeks or months. I have never observed more than one bud on a cell; the change is the same in every blood-corpuscle and is always visible.

From these experiments I think I can infer the following theory as to the structure of the red blood-corpuscles: The red blood-corpuscles of men, birds, and frogs have a limiting membrane in which there exists either a hole, or an area of less resistive power which is easily ruptured. The existence of this membrane in the blood-corpuscles of frogs can be very easily demonstrated by the production of double circles, which appear through the action of the fluid.

In the corpuscles of mammals and birds one can infer it from the above-described depression and from its disappearance on the addition of water.

The existence of a hole in the membrane may be inferred from the circumstance that the substance of the cell which coagulates and withdraws to one side by the action of zinc sulphate, penetrates the membrane always and at only one point, and at this point the hole is actually visible. But, as it is impossible to demonstrate a hole in a normal corpuscle or in a changed corpuscle which has become again flat by the loss of its bud, the question arises if this circular hole is not an artificial one caused by the mechanical action of the withdrawing substance.

This is quite possible. But to reconcile this theory with the fact that the bud always pierces the membrane at the same place, we must suppose that, in the cell membrane, there exists a particular portion which possesses less power of resistance than the remainder, and that this is forced open by the mechanical action of the withdrawing substance.

I have found in my investigations that the same changes can be produced by the use of a solution of zinc sulphate alone, but the changed corpuscles do not remain permanent so long as when camphor is added.

With this solution the red blood-corpuscles remain in the above-described condition for days, weeks, or months. It is therefore better than the preserving fluid of Pacini, that of Hayem, or osmic acid.

The changed corpuscles can also be dyed. For this purpose the ordinary dry treatment can not be used as the cells shrink up. However, by the wet treatment they become dyed immediately and the changes are also to be seen. I have used eosin as a dye.

The permanent preparation of these corpuscles is made as follows: A drop of the fluid, to which blood has been added, is put on a slide and surrounded with oil of turpentine, which is then allowed to evaporate. When this is done the corpuscles do not shrink up, probably owing to the effect of the turpentine which covers them with a resinous crust. In this condition you can add Canada balsam and then lay on the cover-glass.

As these changes can always be effected by this fluid and the changed corpuscles preserved for a long time, this treatment seems to offer better advantages for the study of the structure of the blood-corpuscles and their relations to diseased conditions than any hitherto existing.

Note on the Epidemic of Influenza.—Dr. W. E. Elwell, assistant surgeon to the Home for Disabled Volunteer Soldiers, Togus, Me., says: In view of the difference of opinion, as expressed in many recent journal articles, in regard to the cause, contagiousness, and epidemic character of the influenza which has been so universally prevalenlt, the following note in regard to the features presented when occurring among a large number of men of the same class and subjected to nearly the same environments is of interest in determining its real character.

The first case of influenza occurring at the Eastern Branch National Home for Disabled Volunteer Soldiers made its appearance January 3d, at which time there were eighteen hundred men present, all of whom were advanced in years and more or less debilitated by chronic disease. The suddenness with which a large number was affected was very noticeable, over a hundred cases occurring within five days of its first appearance, and by February 20th—when the disease was practically at an end here—three hundred and sixty-four cases had been noted, or about twenty per cent. of the whole number of men present in the Home.

It was impossible to trace any direct communication of the disease from places where it was prevalent to the first patient, who had not been out of camp for several weeks, and almost simultaneously with the outbreak here the physicians in the neighboring cities reported numerous cases. There was a marked difference in the proportion of the men affected in the six different companies into which they are divided, those quartered in the older and less cleanly buildings suffering the most. Thus in four of the companies the proportion of the men affected was about twenty-five per cent. of the whole number present, while in the two others not more than eight per cent. suffered from disease. Of these two companies, one is quartered in a comparatively new building which is detached and at a considerable distance from the others and particularly clean, while the other company that escaped with but few cases is quartered in one of a group of four buildings which are very similar in construction and sanitary arrangement, but differ in that for several years the officers in charge of this company have had a reputation for obliging their men to conform strictly to the regulations in regard to the cleanliness of their clothing, bedding, and the floors of their wards, so that this company is noticeably clean and orderly. I can discover no means to account for the difference in the proportion of the men affected in the different companies but this, for otherwise they were all subjected to the same influences. Another fact that would tend to carry out this idea is that in the hospital where there are better facilities for keeping the wards and bedding cleanly only five per cent. of the inmates, including both patients and employees, suffered from the disease. The men from all of the companies mingled freely in the dining-room, smoking-room, and library, giving ample chance for the disease to manifest a contagious character, which, had it existed, would certainly not have allowed such a marked difference in the proportion affected in the different companies. There was not a case in which I could discover any reason to believe that the disease was conveyed directly from one person to another, and, as manifested here, it certainly seemed to have an epidemic rather than a contagious character, and unhygienic surroundings seemed to favor its development.

All of the patients suffered more or less from headache, pain in the back and limbs, with fever, in some cases reaching as high as 104·5° F., and in eighty per cent. of the cases distressing bronchial symptoms were present by the end of the second or beginning of the third day, consisting of a feeling of soreness and tightness across the chest, accompanied with a dry, hard cough, expectoration not being established unless stimulated by drugs for two or three days. The cough often lasted for two or three weeks, and, with the great after-depression common to all of the cases, was the most persistent and troublesome feature in the majority of the cases.

Not more than five per cent. of the men suffered from the involvement of the nasal or pharyngeal mucous membrane. In about fifteen per cent. of the cases the whole force of the disease seemed to expend itself upon the nervous system, the headache and pain in the back and limbs often being intense and accompanied with fever sometimes reaching 104·5°. Two of these patients suffered from paralysis. In one the muscles of the left side of the face and larynx were affected, rendering distinct articulation impossible, and in the other partial paraplegia existed for about two weeks. Both patients recovered from these symptoms. There was one case of acute maniacal delirium lasting two weeks, with complete recovery, and two cases of syncope, but in both of these cases organic heart disease existed and the fainting did not occur until some time after a ten-grain dose of antipyrine had been given, so that it was impossible to determine whether this symptom was due to the disease or the drug. In a few cases intestinal colic with diarrhœa was a complication.

Four cases of pneumonia resulted from the disease, of which one was fatal. Two phthisical patients and two patients suffering from organic disease of the heart were unable, in their debilitated condition, to withstand the disease, and died, making a total of five deaths directly attributable to the disease, or about 1·1 per cent. of the whole number affected. It is impossible at the present time to estimate the whole effect of the epidemic, for there are many whom it has left very feeble and more who have not yet regained their former strength, and it is doubtful if many of them ever do, so that the mortality for the year will undoubtedly be increased beyond the five deaths above recorded.

The treatment here was essentially the same as that adopted elsewhere. Antipyrine given during the first two days gave decidedly the best results, relieving the headache, pain, and fever almost at once. Phenacetin and antifebrine were tried in a few cases, but were not so satisfactory as antipyrine. After the fever subsided a majority of the cases required powerful tonics, such as quinine and strychnine, to restore the appetite and lost tonicity of the body generally, and in many cases it was necessary to use stimulants freely, especially in those of persons suffering from chronic disease of the heart and lungs.

ANSWERS TO CORRESPONDENTS.

No. 315.—See a short article entitled "The Immunity of Lime-burners against Consumption," in the Journal for March 23, 1889, page 326, also an abstract of a paper read before the Association of American Physicians by Dr. E. L. Trudeau, in the Journal for October 12, 1889, page 415.

No. 316.—The operation which you describe is without precedent, and would be absolutely valueless.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

THE CLINICAL APPLICATIONS OF DRUGS.

By JOHN AULDE, M. D.,

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Lecture II.

Delivered at the Medico-chirurgical College of Philadelphia,
March 4, 1890.

Reported by WILLIAM BLAIR STEWART.

Aconite.—Continuing our study of the clinical applications of drugs, the first remedy to which your attention is invited this afternoon is aconite. Of course, you have a general idea that aconite is of service in the treatment of inflammatory affections, but you are probably not so well versed in its uses as to understand that it is more especially useful in the treatment of this class of disorders when the mucous surfaces are affected. Its employment in combination with gelsemium in the treatment of threatened pneumonia and for the purpose of controlling attacks of amygdalitis has already been referred to. As a remedy to control the manifestations of fever, aconite has long been used, and with success, and, while the plan commends itself, we must bear in mind that the physiological action of the drug when long continued is to cause paralysis of the heart. While, therefore, it may be useful and of signal service in the treatment of the early stages of various fevers—as scarlet fever, measles, rheumatic fever, and even typhoid fever—this drug must not be continued too long, for the depression which follows its use will but prolong recovery. In pneumonia, for example, aconite is indicated only during the early stage, when its judicious employment will have a tendency to prevent the activity of the circulation from producing congestion of the pulmonary tissues, but later on—as, for instance, during the stage of gray hepatization—the drug is positively contra-indicated.

To avoid the bad effects which are the result of the exhibition of aconite, this remedy should be given in small doses, not more than a single drop of the tincture; but this dose should be repeated at short intervals, at least for one or more hours, when it will be observed that the activity of the circulation has been subdued, the pulse becomes soft and compressible, while the temperature is considerably lowered. When used in the manner indicated you will find that pneumonia, amygdalitis, and like diseases can often be aborted.

There are several methods of administering this drug, or probably, I ought to say, different preparations may be used. I have spoken to you of an assayed fluid extract, because that is a product made to conform to a definite alkaloidal strength, and yet it is simply the crude drug and not an alkaloid. A tincture made according to a suitable formula would doubtless be equally as efficient, but the strength of tinctures as made by different manufacturers varies, and it is better, therefore, to select some desirable preparation that has been tested for alkaloidal purity, using it to the exclusion of others, so far as you can direct the matter. There are instances in which a tablet triturate will be more efficient than a liquid preparation; thus, in the case of beginning amygdalitis, we may instruct the patient to take every ten minutes for an hour tablet triturates each containing half a minim, allowing the same to dissolve in the mouth, when it will be observed that medication thus conducted will produce more decided local effects than when the medicine is taken internally in the usual way. Much smaller doses are required to affect the economy when dissolved in the mouth than when the drug is swallowed, a fact which may be demonstrated with other drugs besides aconite.

Strophanthus.—Strophanthus is a most excellent remedy, especially where we have to deal with cardiac complications, such as fatty degeneration, dilatation, or the weakness which occurs in the course of long-continued diseases, as typhoid, phthisis, and in pneumonia. In these cases much of the depression is due to the accumulation of carbonic acid in the blood, which is not thrown off by reason of the depressed condition of the circulation; the shortness of breath of which these patients complain may be overcome by the administration of a cardiac stimulant. Diffusible stimulants like ammonia and alcohol are not always at hand, and we have no remedy which is so well calculated to arouse the drooping faculties through the instrumentality of the heart as strophanthus. Nux vomica is also a valuable cardiac stimulant, but its influence is more general and less direct upon the heart, while digitalis is a drug which, if long continued, defeats the very purpose for which it is used. The initial effect is that of a cardiac stimulant, but it carries with it indirect or secondary effects which will destroy the influence we desire to produce. Digitalis causes a contraction of the finer vessels of the arterial system, and, in order to overcome this effect and secure a more perfect distribution of the blood throughout the tissues, the force of the heart must be greatly increased. Now, while digitalis increases the power of the cardiac muscle, the general effect of alcoholic preparations, as I have previously explained to you, is one which is not altogether desirable. Strophanthus possesses the advantage over all others in producing immediate and continued effects upon the cardiac muscle; when given in the form of a reliable tincture, but a few minutes will elapse before the action of the drug will be apparent upon the circulation, and this effect will last for some time. When used hypodermically, the effect upon the heart, as shown by sphygmographic tracings, will be noticeable for several days or a week. The judicious employment of this drug will often be the means of saving life by tiding over instances of great depression which are liable to occur in the course of serious diseases. Five drops of the tincture may be given in a little water, and the dose repeated in urgent cases in the course of one or two hours.

Calomel.—Let me call your special attention here to the value of calomel in the form of tablet triturates. You are doubtless familiar with its use in the form of pill, but I desire to call your particular attention to the special advantages of using this drug in the form of a triturate, and from the information thus presented you will have some idea of the changes which may be effected in the manipulation of other drugs by a like process. If you order the druggist to make a pill for you containing a certain amount of calomel along with other ingredients, he takes all the various drugs ordered, places them in a mortar, and with a pestle they are subjected to a short trituration, and in a few moments the pills are ready for delivery.

Calomel, you know, is a mineral substance, and is obtained from quicksilver. By reason of its weight, mercury acts as a purgative, but it will not produce the characteristic effects upon the system which follow the use of the soluble preparations. Doubtless a small portion of the mercury will be acted upon by the acid juices of the stomach, but it will not be changed to such an extent that salivation will be developed. In the preparation of tablet triturates, the calomel, along with sugar of milk—which you know is not a medicinal substance—is placed in a machine and thoroughly triturated for a period of two or more hours, which, it will be evident, reduces the calomel to a very fine powder. Calomel prepared in this way is far more active than when prepared in the usual way in the form of a pill. One tenth of a grain, given every hour for a short time, will be sufficient to produce active salivation, and therefore, in using this drug in the form of a triturate, extreme caution is necessary.

An explanation should be offered in this connection, and I give you one which is most satisfactory and at the same time perfectly logical and simple in the extreme. Through the influence of the trituration with the very hard substance sugar of milk, the particles of calomel are reduced to such a fine powder that more of the drug is absorbed than when given in the ordinary manner, and the frequent repetition of the dose is calculated to charge the system with the combinations it makes in its absorption into the blood. The administration of the drug in this form is thus reduced to a mere mechanical operation. If it is desired to secure a free evacuation of the bowels in the course of from twelve to twenty-four hours, a tablet triturate, containing one tenth to one twentieth of a grain, is given at intervals of half an hour or an hour until five, six, eight, or ten have been taken, and the action upon the bowels, as regards the stools, will be quite as marked as if five or ten grains had been taken.

The difference between the effects of calomel in large and small dosage is that the intestine is not irritated by the exhibition of the small dose, and hence constipation does not follow. Calomel in small doses is sedative to the liver, the stomach, and the intestine, and it also favors the pouring of the watery portion of the blood into the intestine; in other words, these small doses increase the secretions rather than arrest them, which is the immediate effect of the large dose. Pilocarpine, for example, in doses of one fiftieth of a grain, taken into the mouth and there allowed to dissolve, will produce a marked increase of the salivary secretion. Some patients are so susceptible to the influence of this drug that they decline to take more than one of these pills three times daily, owing to the effect it has upon the salivary secretion. True, calomel does not have the same effect upon the secretions that pilocarpine has, but in some respects the action is similar. The action of the drug is thus that of a purgative.

Let me briefly suggest some of the indications for the employment of calomel in the form of tablet triturate. Derangements of the alimentary tract in children, such as are often due to a torpid condition of the liver, will respond quickly to the action of calomel. One twentieth of a grain, given every half-hour until six or eight doses have been taken, will usually produce the happiest effect. The alimentary tract can be compared in some respects to a railroad; the liver, instead of being on the main track, is on a switch or side-track. We have on the main track the freight that has been discharged by the liver—namely, about a quart of bile each twenty-four hours. A portion of this acts upon the starchy and fatty food-products; another portion acts as an irritant to the intestine and causes the peculiar vermicular or peristaltic contractions, and is at the same time antiseptic; while a third portion is reabsorbed, and in time is again secreted from the blood and again poured into the intestine. Calomel acts principally upon the contents of the main track, increasing the discharge of bile and acting indirectly as a purgative, and is therefore indicated in all conditions where the functions of excretion are but imperfectly performed. That condition known as "biliousness" is always benefited by small doses of calomel.

Take some remedy, like cascara sagrada, which is a vegetable substance; it acts as an irritant to the intestine, while at the same time it produces an effect somewhat resembling that produced by calomel, at least in so far as the secretions are concerned. We have here an illustration of the indirect purgative action of the drug, as it relieves the intestine of the accumulations of bile.

Alterative Pill.—In adults you will often meet with the following train of symptoms: Vomiting, coated tongue, foul breath, accompanied by more or less headache; in short, I may say an attack of biliousness or a bilious attack; but it differs in some respects from the cases in which calomel is indicated. Something is wanted to allay the pain, and for this purpose opium in small doses will be found useful. Again, we desire to add to the effect of the mercurial preparation by incorporating into our prescription some drug which will favor the activity of the liver and increase secretion; ipecac answers our purpose admirably, and, fortunately, both of these drugs have the effect of obtunding the sensibility of the sensory nerves. Recalling the formula, it will be seen that it embraces practically the ingredients contained in an ordinary Dover's powder, except that it has in addition half a grain of blue mass.

℞ Pulv. opii, }
Pulv. ipecac., } .... gr. $\frac{1}{8}$;
Massæ hydrargyri.................. gr. ss.
M. et ft. tab. trit. no. 1.

If deemed best, calomel may be substituted for the blue mass. Taking it all in all, the value of this pill for the class of cases indicated can scarcely be overestimated. There is not sufficient opium to make the pill dangerous, and the same is true of the blue mass; but, if they are taken too freely, or when taken for too long a time, we shall have the irritating effect of the ipecac, and vomiting will follow. It is surprising the number of cases in which this combination will be found available.

A word regarding the effect of small doses of opium. There are times when a comparatively small amount of this drug will relieve pain and produce marked results, but you must confine the use of the drug to the smallest amount which is sufficient to relieve the sensory nerves through its anodyne influence. Suppose you have, for example, an ovarian pain or other pain of a reflex character, which interferes with secretion and causes constipation. Contrary to the general teachings upon this topic, opium in small doses acts here in the rôle of a stimulant, increasing secretion. Small doses of the drug relieve the pain to such an extent that secretion is re-established, and thus opium becomes under these conditions a brisk purgative. The blue mass and the ipecac in this pill all combine to increase the action, and it will be found in practice that a comparatively small number, given, say, at intervals of half an hour or an hour, will suffice to produce the best results. In the beginning of all bilious attacks, therefore, characterized by mental hebetude and accompanied by headache, backache, discolored conjunctiva, and a general feeling of *malaise*, you will find it to your advantage to use this pill, because it allays pain, has a desirable effect upon the liver, acts as a sedative to the stomach, and, by increasing the flow of bile to some extent and aiding materially in favoring the discharge of bile, it serves as a purgative. One of these pills should be given every hour, or, in some cases, when the patient is seen late in the day, it will be advisable to give one every half-hour, until four, six, or more are taken, and the result will be in the shape of a purgative action on the following morning. When a more decided anodyne effect is desired, two of these triturates may be given every hour. Ten or twelve of these pills contain a considerable quantity of opium, but that number can be given in the manner indicated without arresting the normal secretions. Single large doses of opium, on the contrary, cause more or less constipation by arresting secretion, and it becomes necessary to follow it with a purgative; but in this case the purgative is combined with the opium itself, and, given in this way, the combination acts as a stimulant to the mucous membrane. It is a valuable combination owing to its efficiency and convenience, two important factors entering into the qualities of a remedy. Take a case of beginning malarial disease, or when the patient is first visited; he has had, perhaps, a chill on alternate days for some time, and these chills have been followed by profuse sweating; the tongue is heavily coated, and the general condition is such that he will be greatly benefited by the use of this formula.

It may be mentioned here that it was thought at one time that podophyllum ought to be used in connection with quinine in the treatment of malarial disease. That idea originated owing to the fact that this drug was recognized as an active stimulant to the liver. You can readily understand how podophyllum increases the flow of bile, and, acting as a purgative, the discharge is manifestly augmented; but in no other way does it increase the action of the quinine. Quinine is the remedy in this disease; the podophyllum simply prepares the way, and thus favors its action. This reminds me to say a word regarding the most appropriate time for the exhibition of quinine; if the pulse stands at 120 to 140, it would not be advisable to administer quinine, except in case of an emergency, when it should be administered hypodermically, because there is too much tension. The abnormal tension prevents the drug from reaching the fluids and tissues of the body to that extent which will permit it to produce the best results; the activity of the circulation must first be reduced, and this may often be accomplished by the use of the alterative pill.

Nux Vomica.—Perhaps you will be surprised at the statement, but one of the first cases likely to be benefited by the use of nux vomica will be that of the vomiting of pregnancy. You are aware of the intimate relation existing between the liver, stomach, bowels, and the uterus, and you understand that this orderly condition of affairs is disturbed when pregnancy takes place and the monthly function ceases for the time. The liver in these cases often becomes clogged, due to the condition of the blood and to the influence of the nervous system, and it is a fact that the vomiting of pregnancy is often due to a torpid condition of the liver. As a temporary medicament, wine of ipecac in drop-doses every half hour will prove sedative to the stomach, but it does not reach the real trouble. Nux vomica can be used in like manner, and will effect better results, owing to its stimulating action. Ten or fifteen drops of the fluid extract may be dropped into a glass of water, and the patient instructed to take a teaspoonful every ten minutes for an hour, then hourly thereafter. The stimulating effects are not only felt upon the terminal filaments of the pneumogastric, but this action is carried to the liver, and extends to the entire nervous system, and so long as no astringents are given to arrest peristalsis, the bile deposited in the intestine is carried downward instead of upward, and, as a consequence, the vomiting ceases.

There are times when persons become so tired that they are unable to sleep, but small doses of nux will be sufficient to raise the condition so that sleep will be the natural result. For the same reason nux is an excellent stimulant in all low conditions of the system; it elevates the vital tone and increases the power. You will remember that I said strophanthus affected principally the heart; but nux affects the entire system. A man complains that he is unable to sleep; his business is so exacting that night finds his muscles tired and his brain in a whirl. Place five drops of the fluid extract in a glass of water, and request the patient to take a teaspoonful of this solution every five minutes for an hour, and you will find that the patient will shortly go to sleep. Of course this method is not adapted to the treatment of lithæmic headaches, which are so common at the present time. The method is invaluable in the treatment of typhoid fever, especially those cases in which the vitality is at a low ebb and where the disease assumes a lingering character. A dose of this solution should be given every hour, except at night, when the intervals may be lengthened to two hours. In case there is danger of heat failure, it will be advisable to combine with the nux a small quantity of strophanthus. In this manner I have been able to keep the pulse from increasing in rapidity during the day, but at night, with the discontinuance of the drug, it would mount up from 86 at night to 100 in the morning. Frequency of the pulse in the later stages of this disease and in pneumonia and other lingering affections means weakness of the heart, and at times it requires all our resources to keep the organ up to its work.

Morphine Sulphate.—We have next to consider the therapeutical indications for the employment of tablet triturates of morphine sulphate, each containing a fiftieth of a grain. Take a person suffering from subacute or chronic catarrh, affecting the bronchi, the throat, or the nasal cavity, and you give a small dose of morphine to allay the irritation. Given every hour or two with one tenth of a grain of calcium sulphide, the effect upon the mucous secretions is such that after twelve to twenty-four hours there is a profuse expectoration of mucus, which affords great relief. Where but slight anodyne effects are required, one of these tablets every two or three hours will answer our purpose, and still will not affect the nervous system, nor the digestion, and thus contributes materially toward recovery. This is especially noticeable in the case of long-continued diseases. The small doses do not arrest the secretions, but they allay pain and reflex irritation and do not disturb digestion. Even here caution is demanded, as morphine given in this manner only produces wakefulness in some persons, and it will be necessary therefore that you should make a mental estimate of the effect to be produced upon the patient.

Nitroglycerin.—Another remedy which is deserving of particular attention, owing to the marked benefits derived from its use in quite a number of troublesome cases, is a one-per-cent. solution of nitroglycerin. You will be called upon some morning between one and four o'clock to see a man apparently breathing his last. You will note from his barrel-shaped chest that he is an emphysematous subject, and you wisely assume that he is suffering from spasmodic asthma. A number of ingenious theories have been advanced to account for these attacks, but I shall not be able to speak of them in detail. Professor Bosworth, of New York, has treated a large number of these cases successfully by the insufflation of cocaine solutions, and he is therefore disposed to assume that in the great majority of instances the real cause may be found in the nerve supply of the nasopharyngeal tract; but I doubt if this statement is altogether warranted by the facts as studied personally and from the reported experience of others. For many years it was religiously believed and taught that in the course of these attacks there was decided contraction of the bronchial tubes, and that this contraction was in fact the true cause of the asthmatic seizure. The theory on its face appears to be plausible enough, owing to the fact that as the tubes branch out they gradually become smaller and smaller, and, if contraction were to take place, breathing would be arrested, because no air could reach the air-cells.

My impression is, that the true explanation of the pathological condition can be demonstrated without assuming that there is spasmodic contraction of the tubes. Undoubtedly the tubes, as well as the air-vesicles, fill up with mucus during these attacks, as there is no expectoration during the period; but apparently this is due simply to increased arterial tension. There is increased tension of the muscular layer of the blood-vessels, and probably there is also increased tension in the walls of the tubes, and thus the condition resolves itself into an arrest of the normal function of respiration. Nitroglycerin, one drop of a one-per-cent. solution, given at intervals of five minutes, has the effect of relieving this undue tension by its action upon the terminal filaments of the vaso-motor nerves. The normal contractions of the heart then cause a fresh supply of blood to be sent to these vessels, arterioles and capillaries, and a patient unable to speak, after being a few minutes under the treatment, is quite able to speak aloud. The same treatment is useful in that form of headache which produces a band-like feeling about the head. It is also used with advantage in the helmet-like headache of Charcot. These troubles are often the result of irregular vascular tension, due to some disturbance traceable directly or indirectly to the liver, and occasionally it will be noticed that the use of nitroglycerin in this manner has an effect upon the liver. The tension of that organ appears to be relieved, the flow of bile is augmented, and within twenty-four hours there are decided purgative effects. A similar effect is produced upon the tension of the kidney, especially the contracted kidney.

Arsenite of Copper.—The remedy which I have left for final consideration is probably the best, owing to the wide range of application during certain seasons of the year, the summer and autumn, when you will have frequent opportunities for using it in practice. I refer to arsenite of copper, Scheele's green, which is prepared in the form of tablet triturates without compression, each tablet containing one one hundredth of a grain. Ordinarily you might suppose that no therapeutic effects would be observed from such a small dosage, but manufacturing chemists tell me that both arsenic and copper, the constituents of this product, can be detected when the proportion is so small as one part to ten thousand.

In the summer season we have frequent calls to attend children and adults suffering from diarrhœa, dysentery, cholera morbus, and like diseases. A history covering several days' illness may be secured; the stools are slimy, watery, and sometimes bloody, and are as frequent as from five to twenty daily. Arsenite of copper may be used with marked benefit in these cases. Dissolve one of the tablets in from four to six ounces of water, and have the patient take one teaspoonful of the solution every ten minutes for an hour, and hourly thereafter. If the patient is a child six months old or less, of course but a small portion of this dose can be given, but several drops can be given in the manner and at the times indicated, and the results, it will be found, are quite as satisfactory as when adults are treated. When desired, the drug can be prepared in the form of tablets, each containing the exact amount of the medicament for a single dose, and this precludes the need for the use of water, which is sometimes contra-indicated.

Having used this preparation now for nearly two years, and having witnessed the best results from its use, not only in my hands, but in the hands of several hundred other physicians who have reported, to me, I feel warranted in speaking to you upon the subject thus strongly, and trust, when you get into practice, that you also will be as successful in its employment.

Original Communications.

THE RELATION OF ERRORS OF REFRACTION AND INSUFFICIENCY OF THE OCULAR MUSCLES TO FUNCTIONAL DISEASES OF THE NERVOUS SYSTEM.*

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About thirty-three years ago, when Donders began to make known in Graefe's Archives his great discovery—the fruit of some years' of labor in the light of the ophthalmoscope—that asthenopia was chiefly the result of an error of refraction whose nature he had himself clearly demonstrated, he found the medical profession engaged in proving that it was due to defective action of the external muscles of the eye. It was then taught by the highest authorities that the cause of asthenopia was to be sought in a spasmodic contraction of some of the ocular muscles. There were practitioners, as Donders remarked, who had the courage to divide these muscles for asthenopia; and he proceeds to say that this is a melancholy page in the history of operative surgery.† But these practitioners are to be forgiven; they had gone as far as our knowledge of physiology would allow. The source of the accommodation of the eye for vision at different distances had not then been discovered, nor had its mechanism been explained. The retina, however, had been abandoned as the *fons et origo mali*, and we were nearing a solution when the ills of asthenopia were ascribed to muscular action and not to the retina, even if the wrong muscles were attacked.

Any proper discussion of so-called ocular reflexes resulting from strain of the eye must begin with a definition of asthenopia. Perhaps that of Donders is the best.

> The eye has a perfectly normal appearance; its movements are undisturbed. The convergence of the visual lines presents no difficulty. The power of vision is usually acute, and, nevertheless, in reading, writing, or other close work, especially by artificial light, or in gloomy places, the objects after a short time become indistinct and confused, and a feeling of tension comes on, especially above the eyes, necessitating the suspension of work. The person so affected now often involuntarily closes his eyes and rubs his hands over the forehead and eyelids. After some moments' rest he once more sees distinctly, but the same phenomena are again developed more rapidly than before. The longer the rest has lasted, the longer can he now continue his work.‡

But Donders went no further than to say that the asthenopia thus described depended upon one of two causes—either upon a short eyeball (hypermetropia), or upon some constitutional disturbance, such as occurs in a marked way in paralysis from diphtheria, and prevents the use of the muscles of accommodation. This latter form has been often confounded with that which Donders said was caused by hypermetropia. It may exist coincidently with hypermetropia, usually of a low degree, or with weakness of ocular muscles, and it is an accommodative asthenopia. But an error of refraction is not at all the cause of it. Exhaustion of the nervous system, hereditary or acquired, from various sources, is at the bottom of this kind of asthenopia. It often depends upon incurable general conditions. But true accommodative asthenopia is curable by means of correcting glasses. The former variety is sometimes called American asthenopia. It is more common in our country than in France, perhaps than in Germany and England. At least one Frenchman thinks it is more frequent in New York than in Paris, because New York men and women are not so well nourished by good and well-cooked food and sound red wine as the corresponding class in Paris. I am not prepared to dispute this opinion.

It is important to bear in mind this distinction between accommodative asthenopia occurring in neurasthenics—women with uterine disease, malarial subjects, those recovering from typhoid fever, and so forth, who at the same time, like the rest of the world, have slight refractive errors and insufficiencies—and pure accommodative asthenopia in healthy subjects, caused either by high degrees of hypermetropia, astigmatism of even moderate degree, great weakness of the internal recti, unequal refraction of the two eyes, or the like.

Although Donders was the discoverer of the nature and the cause of asthenopia, he had no idea of its frequency. While he recognized the fact that headaches, melancholy sensations, and a long train of evil symptoms might result from asthenopia, he did not know how frequently these symptoms were caused by ocular fatigue. In his time the public were somewhat discouraged in getting medical aid for the relief of these symptoms, and readily gave up the use of their eyes for near work and turned to agriculture or idleness as a palliative for what could not be cured.

Donders found in a shortened eyeball the chief cause for asthenopia; as he says, "hypermetropia is usually at the bottom of asthenopia." If he had known as much of the effects of astigmatism as he and Knapp had shown us of its nature, he would have said hypermetropia *and* astigmatism.

At this very time Graefe was in the midst of his investigations of muscular asthenopia. Donders was careful to describe muscular asthenopia also. He believed that it depended chiefly on insufficiency of the internal recti muscles. Up to this day Donders's classification has been pretty generally accepted, and all writers speak of accommodative and muscular asthenopia. But Donders underrated the importance of astigmatism in producing asthenopia, and, scientific and wise as he was, he was so overshadowed by the great genius and authority of the pioneer in modern ophthalmology, Graefe, that he laid undue stress upon muscular asthenopia, although his work removed a great deal of what I believe not only was then but is now a fictitious importance ascribed to this latter condition. Even then he called attention in an uncertain way to the important fact that errors of refraction were practically fixed conditions, while muscular insufficiency must be as variable in the eyeball as in the leg or hand. But Donders's work stopped much of the cutting of external ocular muscles and narrowed the field of muscular asthenopia. In reading the work of the great Dutch physiologist in the light of subsequent years, it seems as if his courtesy restrained him from speaking his full mind about the *ignis fatuus* of asthenopia dependent upon insufficiencies of ocular muscles. Graefe admitted at a very early stage that the combined action of the recti interni for accommodation for the near point was extremely different under physiological conditions in different persons. He might have added, in the same person.*

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* Read before the New York Academy of Medicine, March 20, 1890.

† On the Anomalies of Refraction and Accommodation, p. 272.

‡ *Op. cit.*, p. 259.

Matters as to asthenopia, in both the Old and New World, rested for a number of years about where Donders left them. Although he speaks of gloomy feelings being changed to those of hope and exuberance in consequence of a relief from asthenopia by wearing glasses, and adduces several graphic cases of this kind, he did not fully appreciate the great relief that the practice of ophthalmology in the light of his discovery of the nature of hypermetropia and astigmatism was to bring to thousands upon thousands of suffering men and women; much less did he dream that the origin of nearly every form of disease of the nervous system was to be found in an error of refraction or an insufficiency of ocular muscles. It was reserved for America to maintain not only that asthenopic affections were due to errors of refraction and accommodation and muscular insufficiencies, but, to quote the exact words of the author, "Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in the processes, are among the most prolific sources of nervous disturbances, and, more frequently than other conditions, constitute a neuropathic tendency." †

But the definition of asthenopia became more comprehensive, the resulting headaches and twitching of the lids were more fully described and recognized by ophthalmologists everywhere. Blepharitis and sties and tarsal tumors were added to the list of these consequences.‡ But until about 1874 the evil consequences of uncorrected errors of refraction were supposed to be limited to the area directly in connection with the eyeball. There was no contention that asthenopia, except by mental depression, extended beyond this region in its evil effects.

At first it was said that chorea as well as epilepsy, although sometimes dependent upon organic lesions, were generally functional nervous affections, under which head they are classed. And even now Dr. Stevens says:

> The anatomical lesions of the brain or of the cord are sometimes coincident with chronic chorea it is true, but that there is necessary or causative relation between the two conditions has not yet been shown. Indeed, it is much more probable that the anatomical lesions of the brain and cord are among the results of chorea, or of the irritation causing it, and that they are not in any respect the original sources of irritation.*

Of late this allegation has been somewhat modified, and great pains is now taken to state that when epilepsy and chorea are mentioned there must be careful discrimination between functional and organic chorea and epilepsy,† and that only the former are proper subjects for operation. In the early papers we have very little, if anything, of the differences between chorea and epilepsy dependent upon organic causes and that which is said to be functional. Dr. A. L. Ranney, who is well known as a disciple of the promulgator of this doctrine, even now speaks of chorea as always a functional nervous disturbance. He says that it is doubtful to his mind if any changes exist in the brain or spinal cord with chorea. ‡ The same author admits that epilepsy may have an organic cause. But it is apparent that he believes that this is exceptionally true and that epilepsy is also a functional disease.#

When chorea, epilepsy, and insanity were all classed under the head of functional nervous disease, it was at first maintained that hypermetropia was the chief influence in the production of these functional nervous diseases. It was then deemed sufficient to correct the hypermetropia or the astigmatism. In a paper read before this Academy ‖ it is plainly stated by Dr. Stevens that "chorea is a functional disturbance of the nervous system, which may give rise to organic lesions, and which arises from irritation dependent upon anomalous refraction of the eye, and in a very large proportion of cases to hypermetropia." But of late years, say from 1886 or 1887, the muscles are said to play the chief part in causing the functional diseases, and operations upon them are necessary for the cure. A new nomenclature has been promulgated for the purpose of defining muscular insufficiencies, and operations upon these muscles have largely supplemented or taken the place of the correction of errors of refraction. Thus we have returned in a circle to the position in which Donders found Graefe and the ophthalmologists preceding him. Asthenopia, from which nervous diseases of all kinds are now said to result, is chiefly dependent upon muscular insufficiencies and is generally to be relieved by operations upon these muscles.

It now becomes necessary to make rather a long quotation, to show what is alleged will follow from an adoption of the general principle that functional nervous diseases depend chiefly upon faulty action of the eye:

> I think it not unreasonable to look for the future advance in medical practice along two great lines. That advance along one of these lines was begun when Jenner, recognizing the fact that the human subject may be made sterile to the development of certain organisms when once it has been pre-occupied by the presence of the same or a similar class of organisms, introduced vaccination as a preventive of one of the greatest scourges of

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* Archiv, B. III, Ab. 1, p. 308.

† Functional Nervous Diseases, George T. Stevens, M. D., 1881.

‡ Transactions International Congress of Ophthalmology, 1876, Roosa.

* *Loc. cit.*, p. 88.

† Journal of Nervous and Mental Diseases, Nov.–Dec., 1889.

‡ Lectures on Nervous Diseases, p. 494.

# *Op. cit.*, pp. 474 *et seq.*

‖ Transactions of the New York Academy of Medicine, vol. ii, p. 440.

the race. In our day an army of investigators, well trained and well equipped, is exploring the realms of the minute in search of the micro-organisms which, in their invasions in swarming myriads within the human body, threaten to destroy it by their devastations. It is not impossible that against the inroads of the various organisms whose incursions constitute typhoid and typhus, scarlet fever and measles, cholera and yellow fever, barriers may be erected which shall in large measure protect against the class of maladies which now destroys so large a proportion of the population of the world. The advances which have already been made along that line are doubtless but the earnest of that which is to come.

Along the other line we may look for as great achievements. The class of maladies which has been during all time relegated to the tender mercies of fetichism and superstitious notions of cures by drugs, having no relations to the origin or the nature of the disorders themselves, will ere long be regarded as irregular phenomena resulting from well-defined causes of irritation, which causes must be sought for principally in the direction of difficulties in the performance of necessary functions. With the removal of such difficulties we may look with confident expectation to the cessation of the peculiar irregularity which constitutes the special form of nervous disease. Through such means we may reasonably expect that the great class of functional nervous troubles of which epilepsy and insanity, neuralgia and hysteria may be regarded as representative, will be nearly as effectually guarded against as is small-pox by vaccination.*

The quotation just made is an extract from the paper that led to the formation of a commission of experts to investigate the subject of the cure of nervous diseases by glasses and tenotomies.

It was supposed at one time by some writers that insufficiencies of the ocular muscles, except of the interni, were never discussed until the discoveries of 1876 and 1880; but reference to the writings of Graefe † the nephew, Loring, and others, show that this was incorrect, and that even latent insufficiencies of all the muscles were recognized years before this.

It was Alfred Graefe also who clearly laid down the rule, lately so often ignored, that errors of refraction and accommodation should be corrected before noting muscular insufficiencies, and this for the simple reason that muscular insufficiencies were often caused by uncorrected errors of refraction.

These novel views as to the causation of functional nervous disease have now been subjected to years of very thorough investigation, accompanied on this side of the water especially with much acrimonious disputation. In Europe they have excited little attention. A learned commission has sat upon the whole subject, and although its report is unanimous, and bears on the whole rather heavily against the value of the discovery of a great principle of cause and cure, it can not be said to have closed the subject, for in the discussion that followed the report of the commission one of its members seemed not to be quite certain of the propriety of an adverse report. In his remarks he laid great stress upon the delicate instruments and manipulations which have characterized these curative operations, and he also said that, "not being a neurologist, he did not feel competent to judge of the therapeutic effect of these operations."

From the editorial remarks of a journal conducted by another member of the commission, we may fairly conclude that he also did not fully agree with what was supposed to be a unanimous report. The leader in this journal says:

> Now, what does this prove, and does it prove anything? It would seem to prove that Dr. Stevens's method is a therapeutic measure valuable as an adjunct, and that, in certain cases where toxic medication is unwise, it constitutes one more means of alleviating suffering.*

In the debate that followed among the neurologists, there was a minority that did not fully agree to the report.

The commission, however, unanimously expressed the opinion that the method of Dr. Stevens did not afford a sufficient degree of relief to patients suffering from chorea or epilepsy to warrant its adoption or recommendation to the Neurological Society as a means of cure or as the sole therapeutic measure. †

It is evident, then, that there is still such a state of unsettledness in the minds of quite a fraction of the medical profession as to justify further discussion. For this reason I have accepted the invitation of the president of the Academy to present my views upon peripheric irritation as a cause of disease, especially with reference to irritations of the eye.

The basis of argument by which chorea and epilepsy were considered to be due to errors of refraction and accommodation has, in my opinion, been long since shown to be entirely fallacious, although in the monograph upon this subject, from which I have already quoted, great stress is laid upon these tables. The following is an example of one of them: Of 118 cases of chorea, ‡ 78 are said to have been hypermetropic, 13 had hypermetropic astigmatism, 5 had mixed astigmatism, 6 were myopic, and 11 had myopic astigmatism.

This table, and also the similar tables that are furnished with reference *to errors of refraction* in epilepsy, migraine, are of no more importance than if they stated that, of 118 persons suffering from measles or a broken thigh, such a proportion were hypermetropic and so forth. It has been shown by myself; # by Ely, ‖ in his Examination of the Newly Born (correcting the observations of Jaeger, who had supposed the infantile eye to be myopic); by Randall; ^ and others, that only a very small proportion of adults or infants, say seven per cent., have absolutely emmetropic eyes. We did not know this when Donders made his discoveries, although Donders knew that a low degree of hypermetropia was exceedingly common, and he did not reckon such as likely to cause asthenopia. Indeed, he did not consider it to be an abnormal condition.

Stimulated by the allegation made in 1876, which I have

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* New York Medical Journal, p. 428, vol. xlv, April 16, 1887.

† Saemisch, Handbuch, Band vi, 4. Theil, p. 216.

* New York Medical Journal, Nov. 30, 1889.

† Report, p. 32.

‡ Functional Nervous Affections, p. 91.

Transactions of the American Ophthalmological Society, 1878.

‖ Archives of Ophthalmology, vol. ix.

^ Am. Jour. of the Med. Sci., July, 1885.

quoted, that functional diseases of the nervous system were due to hypermetropia more than to any other one cause, my investigations of adults who had never suffered from asthenopia, and whose eyes were placed under the full influence of atropine, were first made in 1877. They were followed by others, and all agree that, excluding the myopic, nearly all the world is hypermetropic. If all the world is myopic or hypermetropic, how can it in reason be asserted that these conditions in themselves cause the functional diseases of the nervous system? At least the advocates of such a doctrine would be obliged to admit that other causes must act in conjunction with these deviations from an almost unknown normal standard to produce any grave disease.

It was demonstrated by these papers and by Dr. C. S. Bull that people could be perfectly well and have all the errors of refraction and accommodation that were said to cause chorea and epilepsy.

These tables of errors of refraction occurring in epilepsy and chorea were thus stripped of all their value, and the arguments resting upon them fell with them. Without this being fairly admitted, the tables were still published. In a paper read before this Academy the argument was now changed to meet the new facts confronting the new theory. In a paper read in 1880,* attention was called to the fact, said to have been discovered in 1876, that insufficiencies of the straight muscles of the eye, by causing want of co-ordinate action, might cause nervous disturbance in the same manner as, or in conjunction with, refractive lesions. Then the formula was altered, and now functional nervous diseases are dependent upon anomalous conditions of the refraction and accommodation, or *upon imperfect action of the muscles of the organ*, "more than to all other causes combined."

It seems to have been tacitly conceded that errors of refraction alone were not the chief source of functional nervous disease; but this was not said, although the argument was transferred to the muscles of the eye, to muscular insufficiencies. It is the doctrine that nervous disease is caused by their insufficiencies and relieved by ocular tenotomies that I now wish to combat.

Before I follow this doctrine of the dependence of neuroses upon want of ocular muscular equilibrium to its legitimate ending by statistics showing how few people have such a muscular equilibrium, I will read the main outlines of a table, which shows what people who come to an oculist for glasses actually suffer from, and how few of them have anything but the accommodative asthenopia. Considering the assertion that, "more than to all other causes combined," epilepsy, chorea, and other functional nervous diseases are referable to conditions of the eye, is it not remarkable that so few of their victims consult an ordinary oculist? These tables were prepared for me from my private case-books by Dr. Frank N. Lewis.

A Table showing the Symptoms complained of by Patients who came to have Glasses fitted.

Total number of eye-patients examined	6,455
Total number of refraction cases	3,584
Asthenopia	1,445
Not seeing well in the distance	428
No history*	325
Blepharitis, sties, chalazia, etc.	265
Headaches	213
Not seeing well for near work	211
Glasses unsatisfactory	191
Conjunctival irritation, trachoma	178
Pain in the eyes	149
Diplopia	43
Muscæ	39
Lacrymation	31
Sent by neurologist	20
Dizziness	15
Twitching of the lids	11
Photophobia	5
Blur before one eye	5
Chorea	3
Sudden loss of vision	3
Twitching of the muscles of the eye	2
Orbital neuralgia	1
Dilated pupil	1

Table showing the Refraction of the Eyes making up the Preceding Table.

	H.	M.	H. ast.	M. ast.	Mixed ast.	Refraction different in the two eyes.	Pr.	Muscular insufficiency.
Asthenopia	528	81	268	86	27	86	49	23
Not seeing well in the distance	35	166	42	104	26	20	...	...
No history	30	89	30	41	8	5	82	1
Blepharitis, sties, chalazia, etc	111	19	53	11	3	12	3	...
Headaches	53	12	71	26	9	26	5	4
Not seeing well for near work	33	...	31	13	4	.....	...	...
Glasses unsatisfactory	6	31	38	45	6	3	17	..
Conjunctival irritat'n and trachoma.	95	21	24	11	2	.....	17	...
Pain in the eyes	28	23	20	22	4	6	6	...
Diplopia	10	...	1	...	1	.....	...	3
Muscæ	17	2	2	2	1	1	...	...
Lacrymation	12	2	6	1	...	.....	6	1
Sent by neurologist	6	1	1	1	...	.....	3	1
Dizziness	5	2	3	...	1	2	...	1
Twitching of the lids	2	1	3	1	...	.....	...	...
Photophobia	1	2	1	...	...	.....	...	...
Blur before one eye	2	...	1	1	...	.....	...	...
Chorea	3	...	...	...	...	.....	...	...
Sudden loss of vision	...	1	1	...	...	.....	...	...
Twitching of the muscles of the eye.	...	1	...	1	...	.....	...	...
Orbital neuralgia	1	...	...	...	...	.....	...	...
Dilated pupil	...	...	1	...	...	.....	...	...

These patients came to me, not because they had general nervous disease, but because they had symptoms beginning plainly in the eye or in its appendages, or adjacent to them. There I think may be found a true guide in diagnosis. It will be remembered that, in accordance with the theory that the cause of chorea and epilepsy, and so forth, is to be found in the ocular refraction or muscles, it is not necessary that the eye or its appendages should manifest any symptoms at all. The condition of the eye is to be revealed by skilled observations as to the refraction and delicate tests as to muscular equilibrium. These causative conditions may be completely concealed until thus demonstrated. Patients who never knew that they had an ocular symptom are told that all their troubles proceed from their accommodative and visual apparatus. This is not in accordance with the usual condition of things. A splinter in the tissue, a foreign body of any kind in any part of the body, whatever reflex disturbance it may give rise to, will usually give local symptoms also, and thus call attention to its origin. In this I do not believe the eye, ear, nose, or throat is any exception. If we have actual reflex disturbances of the general system, besides those disturbances asthenopia in one of its many forms will show itself. I do not believe that a refractive error or a want of muscular equilibrium that causes no local disturbance will, unless in highly exceptional cases, cause any constitutional affection.

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* Stevens, Transactions of the Medical Society of the State of New York, 1880.

* Those having no history were chiefly cases of presbyopia or myopia in which no asthenopia was complained of.

It is not possible in such a paper as this to give even the outlines of the individual cases that demonstrate in detail, and unanswerably, the failure of this theory to account for the origin of nervous diseases. If *falsus in uno*, *falsus in omnibus* is good logic, every oculist's case-book will overthrow the doctrine of the ocular origin of nervous disease. Chorea has been entirely recovered from years before any correction of an error of refraction occurred. In other instances, one eye has never been used with the other, and yet most active careers, requiring most profound, patient, and exacting mental labor, have been successfully carried on, marred only by slight asthenopia. Again, vertigo, said to depend upon want of co-ordination of the ciliary and recti muscles, has been recovered from while the want of co-ordination remained just the same. Every oculist of wide experience sees many such cases. They utterly destroy the theory that any discovery has been made, of wide adaptation, which places refractive defects at the basis of general disease of the nervous system.

I could speak also of the essays upon this theme which gravely fill pages of print with the most primary details as to accommodation and tests of vision—details to be found in every text-book upon diseases of the eye, but which are described as being something new in connection with the great discovery of ocular conditions "more than all their causes combined" as giving rise to nervous disease. I might also mention the anxiety produced in the laity about their eyes, which has caused presbyopes who have no accommodation of any disturbing kind to submit to disabling of their eyes with atropine for two weeks, in order finally to get a pair of glasses, which any oculist would prescribe, and correctly prescribe, in fifteen minutes by the clock. If this dictum which we are discussing is true, most physicians should become oculists. Very little other knowledge than how to test the refraction and the muscles and how to cut the latter will be needed if the predictions as to the importance of this discovery are fulfilled.*

It having been pretty thoroughly established that errors of refraction among well people are the rule and not the exception, the next thing naturally is to determine how many well people—that is, well as to asthenopia and nervous symptoms—have what is called muscular equilibrium, or, to use a modern nomenclature, have *orthophoria*, or parallel eyes.

I have recently investigated the muscular insufficiencies which are said to be the prominent if not the chief factors in causing neuropathic conditions, and I present the table herewith. The investigations were made by one of my staff, Dr. Deynard, of the Manhattan Eye and Ear Hospital, with the phorometer, with strict attention to the details laid down in the recent writings upon this subject. I personally have never examined the cases. Dr. Deynard has been perfectly untrammeled in his investigations.

One hundred and three persons who did not have any trouble with their eyes that they knew of, who read and wrote and sewed without headaches or asthenopia, who had no vertigo, chorea, epilepsy, hystero-epilepsy, or insanity, were selected as subjects for testing. Eighty-three were aural patients attending the Manhattan Eye and Ear Hospital; six were friends who came with them; eleven were physicians; one was a music teacher; one was a servant; and one a detective. Seventeen (or sixteen per cent.) were found to have muscular equilibrium; eighty-four (or eighty-one per cent.) had a want of muscular equilibrium, so-called heterophoria—of these, twenty-seven (or twenty-six per cent.) had deviation outward, exophoria, insufficiency of the interni; and seventy-four (or seventy-one per cent.) exophoria in accommodation; sixteen (or fifteen per cent.) had deviation inward, or esophoria, insufficiency of the externi; seven had esophoria in accommodation; eleven (or ten per cent.) had hyperphoria, a tendency of the right or left visual line upward; twenty-four had hyperphoria in accommodation. A re-examination of five of these patients showed a change in the muscular examination from that found at first. This is an important observation, since it proves that, as asserted by Starr and others, the muscular power in the same eyes is not fixed, but variable.

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* The views of those who, rejecting the theory as to epilepsy and chorea, yet believe that migraine is always to be ascribed to ocular defects, if those defects are found, are well presented in a recent lecture by Dr. Seguin (N. Y. Medical Journal, April 5, 1890). He says: "The proportion of subjects of migraine who have ocular defects is amazing; very nearly all have either errors of refraction or muscular insufficiency, or both combined. In 1882 I received from Dr. G. C. Savage, of Jackson, Tenn., a very courteous letter challenging me to furnish a case of migraine in a person with normal eyes. I have not yet met with one, though I have been told of two or three by oculists in whom I have confidence. Of course the statement as to the invariable concomitance of eye-faults with migraine presupposes that the patients have been examined thoroughly—*i. e.*, under the full effects of atropine for refractive errors, and by Stevens's method for muscular insufficiency. I regret to say that there are still oculists of good standing who examine the eyes of headache cases in the most careless way, ordering glasses without having used atropine, and ignoring the muscles altogether. This has happened under my observation in New York within six months."

All this argument falls to the ground when we learn that thousands of people have all these defects and yet have no migraine. I have also seen many persons with migraine who were no better after a careful correction of astigmatism and muscular insufficiencies, although some are much relieved by glasses, especially cylindric glasses. Dr. Seguin adds: "Another argument in favor of the ocular origin of migraine is that other remarkable fact that in many persons of both sexes the attacks diminish and cease between the ages of forty and fifty years. It is at this period that the power of accommodation becomes exhausted and a large part of the unconscious strain which has been going on from early youth is removed."

This can not be the explanation, for it is just after presbyopia comes on that astigmatism often becomes very troublesome, especially astigmatism of a moderate degree. I know of many cases where asthenopia, blepharitis, and so forth, first appeared when glasses were needed for fine print, and the spherical ones proved insufficient. The cessation of attacks of migraine can hardly, in the light of this fact, be due to the let-up in the accommodation incident to middle life. Dr. Seguin falls into the error, now so common, of ascribing headaches and so forth to the eye, simply because errors of refraction are coincident with the neurosis.

Many neurologists have, unfortunately, not kept up with recent accessible ophthalmological literature. They are working upon lines abandoned by oculists ever since the actual percentage of ametropia was discovered.

Hence it is seen that any series of cases founded upon certain ocular insufficiencies can not be said to be proved when the existence of these insufficiencies is shown, for they may exist in connection with entirely healthy nervous systems, just as errors of refraction may. The value of observations founded on such tables is now no more than of those founded on errors of refraction. Not only does all the world have faulty refraction, but very few people possess equilibrium of the ocular muscles.

The capacity for great intellectual work with great muscular insufficiencies is well shown by the following extract from a letter relative to the perception of distance by Sir William Rowan Hamilton, Astronomer Royal of Ireland:*

> "Though I habitually see a double universe, yet a marked improvement has taken place within the last few weeks in my power of seeing single. This I attribute to my having lately, for the first time in my life, bought a stereoscope and used it at leisure.
>
> "A friend within a few minutes' walk of me has long had a stereoscope apparatus, but years elapsed before I could catch the effect at all. With each eye separately I saw a good relief, but it is 'two years ago' that I first was able to see that *tertium quid* which is the true result of the stereoscope, and certainly it greatly astonished me."
>
> Written by Hamilton to De Morgan at fifty-eight.

Hamilton also states that, on the evidence of his friends, he did not squint, and his photograph shows that he did not do so in any marked degree.

The study of the causation of disease is certainly a very important one, but it is almost as puzzling at times as the theological problem of the origin of evil in the world. Yet some things we do know. If a man lives in a malarial swamp and intermittent fever attacks him, or if he drinks water polluted with typhoid bacilli and gets typhoid fever, or if he is exposed to a case of small-pox and breaks out with this disease, or if after prolonged exposure to wetting he is attacked with acute rheumatism, we have no difficulty in saying as to where the cause of his disease is to be found. But no philosopher will conclude that cholera is caused by insufficiency of the ocular muscles because a large proportion of those seized with this disease, as is certainly true, have such an insufficiency. The truly scientific observer will recognize in nervous maladies a series of causes acting together, and at the bottom of them all, in this country at least, will be found that ill-defined condition of which we know so little, but of which we shall know more, called nervous exhaustion.

To go back to errors of refraction for a moment. Another fact should be noted in this discussion. Contrary to what is stated by Ranney,* hypermetropia is constantly outgrown in the development of the eyeball, as every ophthalmologist knows. A hypermetropic eye may even become myopic. Glasses needed at twelve and fourteen are discarded without asthenopia at twenty, and so forth.

The inconvenience of uncorrected errors of refraction, especially of high degrees of hypermetropia and of even inconsiderable degrees of astigmatism, can hardly be overestimated with reference to their influence upon the head and the face, and upon the animal spirits of some patients, but their influence generally seems to stop there, except in very rare cases in neurotic subjects.

It is not an uncommon experience in malarial disease and after typhoid fever to find accommodative asthenopia, which is only relieved when quinine has cured the malarial disease and time and hygiene have restored the shattered nervous system of the sufferer from *fièvre nerveuse.* Those who believed that in the eye "more than in all other causes combined" are to be found the cause of functional nervous disease would have been now on surer ground if they had stood by the first declaration, that errors of refraction were the cause, and not taken refuge in want of muscular equilibrium.

A great deal of muscular insufficiency depends upon uncorrected astigmatism. Alfred Graefe and Loring were right. We can say very little as to what constitutes a muscular insufficiency until the refraction, and I say especially the astigmatism, be corrected. A thorough use of atropine, or, better still, an examination by Javal's ophthalmometer, will often cause us to correct a troublesome insufficiency by cylindric glasses and not by prisms, much less by a tenotomy.

There is a large class of neurotic patients who may or who may not have high degrees of errors of refraction (generally, however, they have only low degrees of hyperopic or hyperopic astigmatism) whose accommodative asthenopia, like their headaches, depends upon hereditary faults and predispositions. These neurotic families seek, now in one panacea and now in another, a cure they will never get. Palliation is all there is for them. Neurotic they are born and neurotic they will die; although for a time one set of symptoms may be changed for another. As in Dr. Loring's case which I have before alluded to in this Academy, "their eyes have got all right, but it has gone to the stomach." I know of one neurotic family where one member has had a dozen operations upon his eyes, but he is as neurotic as ever. Another has had all her troubles transferred from her ovaries to her eyes by excessive attention to them. She goes about discoursing upon advancements and divisions of recti muscles, but sure that without her oculists she would have died. A third member with myopic astigmatism in one eye and myopia in the other, and the difficulties of presbyopia coming on, is nearly harassed out of his domestic peace by the urgent desires of his more fortunate relatives that he should seek relief in ocular tenotomies. Other patients, who have never suffered from asthenopia until they began to undergo treatment for nervous disease by tenotomies, wander over the earth seeking to have a double vision removed of which they once knew nothing, and yet complaint is made by the author of the doctrine I am combating that, after months of attendance and several tenotomies,* patients are withdrawn from treatment while defects of great importance are known to exist, which by continuous effort might be removed.

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* I am indebted to my friend Dr. Dennet for this quotation from the life of this eminent savant.

* Lectures on Nervous Diseases, p. 126.

Donders's argument that in errors of refraction and not in muscular insufficiencies would be found the chief cause of asthenopia was not put very plainly, but I undertake to say that not in the muscles but in the eyeball, in the refraction, the sources of ocular reflexes are to be found, such as occasionally exist, just as a foreign body in the ear may occasionally cause epilepsy or a decayed tooth cause spasm of accommodation. The condition of the muscles is unstable, as has been pointed out; and, as my tables show, what is a man's power in his ocular muscles to-day may be another to-morrow.

These cases of epilepsy and chorea dependent upon peripheric irritation are entirely exceptional, while asthenopia is real and common. We have no reason to hope from anything that has yet been shown that there is any large class of functional constitutional nervous diseases caused by peripheric troubles, and, as I have said, whatever there are are to be sought for not in the muscles, but in the eyeball. The conclusions to which I have come, as a result of twenty-six years of work in ophthalmology, with a careful consideration of the writing and works of others, including those who believe that functional nervous disease is due to the eye "more than to all other causes combined," are as follows:

1. The eyeball of the human race is very rarely in what might be defined as an entirely emmetropic condition.
2. Perfect equilibrium of the ocular muscles is by no means a common condition, even among persons of sound health and without asthenopia.
3. Defects in these two states by no means necessarily produce even local disturbances, such as are comprehended under the term of asthenopia, inflammation of the edges of the lids, etc., although high degrees of hypermetropia, moderate degrees of astigmatism, and all cases of mixed astigmatism are apt to do sooner or later.
4. Asthenopia depends chiefly upon two sets of causes—nervous exhaustion and uncorrected errors of refraction.
5. In estimating the influence of these defects, great stress should be laid upon the general condition, and the line sharply drawn between asthenopia due to exhaustion and that to faulty refraction.
6. Nothing has been added essentially to Donders's discovery of the fundamental cause of accommodative asthenopia, except that astigmatism forms a more important factor in its ætiology, muscular asthenopia falls into the background, while the definition of asthenopia has been much amplified by ophthalmologists.
7. The origin of a considerable class of such diseases as chorea, epilepsy, and hystero-epilepsy has not been found in errors of refraction nor in insufficiencies of the muscles of the eyeball.

The observing general practitioner of our city is able to test the truth of this latter proposition as he looks among the neurotic families and individuals of his acquaintance and observes whether or not the use of glasses and ocular tenotomies are beginning to lessen the cases of chorea and epilepsy. Certainly a discovery which it was predicted would vie with those of Jenner and Lister has been proclaimed with sufficient fullness and clearness and has been acted upon in an arena large enough to allow us to judge by this time whether it is an advance in rational and scientific therapeutics. I do not believe that it is, but that the theory of the ocular origin of nervous disease, by distracting attention from the evident, and in some instances preventable, causes of neuroses, has delayed our progress and inflicted serious damage to the reputation of our profession for accurate observation and philosophical conclusions.

THE OPERATION FOR CATARACT WITHOUT IRIDECTOMY.*

By FRANCIS VALK, M.D.

The title of this paper would seem to imply that the subject presents nothing new to the members of this society. The performance of this important operation without the removal of a small portion of the iris has almost constantly occupied the attention of all ophthalmologists for the past three or four years, resulting at the present time in a universal return to the old method of operating as performed twenty or more years ago. I refer to the simple extraction, as first practiced by Daviel, which a few years ago almost entirely disappeared from the records, but has again been revived, and we now receive the reports of various series of one hundred cases where this operation has been performed by the method of simple extraction.

I must say that the results by this method, as far as the ultimate effect is concerned, are almost all that could be desired or wished for, as, if we refer to the last series of cases reported by Dr. C. S. Bull, we find that the final results of those brilliant operations were eminently successful. But in watching this operation by others and noting the difficulty in the extraction of the lens caused by the mechanical impediment to its exit presented by the iris, and also when I have performed the simple extraction, I have been led to hope that some method which would facilitate the speedy and easy exit of the lens would at least merit the approval of this society.

It is with this object in view that I present this paper to the society, with the hope that the suggestions it may contain in reference to the *technique* of the operation may meet with your approval; or, if not, that whatever objections you may see fit to present may be considered in a spirit of fairness. At the same time I shall hope that the number of operations I have performed, and those of others, may lead you to give it your consideration and a trial, should it meet with your approval.

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* New York Medical Journal, April 16, 1887, p. 427.

* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

I can not say that this method of operation will prevent the use of the spatula after the lens has been extracted, nor will it prevent the incarceration of the iris or its subsequent prolapse before the section has healed; nor will it prevent the formation of the adhesions of the iris to the torn capsule or the subsequent discission of the opaque capsule; nor will it promise us a normal movable pupil. But it will prevent the prolapse of the iris at the time of the operation, and very materially assist us in the ready exit of the lens. As, if I may be allowed to state the words of Dr. Herman Knapp, of New York city, when he witnessed the operation, "How easily the lens comes out!" It was for this purpose that I have performed the operation for cataract by the method I will endeavor to describe to you, and I feel bound to say that, having done so for the past two years, I am well satisfied with my results, and shall continue to use the same procedure. Further, I have not picked out my cases, but have followed out the same steps in all the operations I have had the privilege to perform, and I think my results will compare favorably with the reports of operations by the method of simple extraction or that of the modified Graefe operation with iridectomy.

An ideal operation for the removal of cataract has never yet been performed intentionally to my knowledge, as it presents too many difficulties and dangers to the visual integrity of the eye, to say nothing of the liability of its total loss. Hence, any procedure that may lessen these difficulties may possibly have some merit and meet with your consideration. By an *ideal operation* I mean one that can surely and safely be performed for the removal of the lens *in its capsule* and *without* an iridectomy, at the same time that the cosmetic appearance of the eye shall not be changed or disfigured. To this result I do not think we have yet arrived, but we have made several attempts toward it, and perhaps it has been performed in those few cases of very old people, when the zone of Zinn has completely ruptured and the lens has presented at the section through the pupillary space as soon as the section has been completed.

I do not propose to discuss the various methods of performing this operation as performed by Roosa, von Graefe, Galezowski, Landolt, De Wecker, and others—all of which have many special points of merit—but to explain the procedure that I have adopted during the past two or three years, with considerable success in twenty cases.

Looking at the operation as a *mechanical* idea, and noting the very apparent obstacles which the iris presents for the easy and safe exit of the lens by the method of simple extraction, it occurred to me: Can we not omit the iridectomy and at the same time have the advantages of the removal of a portion of that membrane? Why not draw back the iris and pass it behind the lens as the extraction proceeds? Acting upon this idea, I have made an instrument that I have called an *iris retractor*. This retractor is of about the size of an ordinary iris forceps, with little smooth knobs on the ends of the blades that catch on the pupillary edge and hold the iris "tucked back" as the lens passes outward, and then the iris is easily released and returns to its normal position. Trying this on some animals' eyes, I found that it would facilitate the exit of the lens, and I therefore determined to use it on the human eye.

I soon had the opportunity, as reported two years ago, and the result was all that I expected, with a rapid and complete recovery. The pupillary space was round, and at no time any evidence of iritic inflammation.

Since then I have never failed to use the retractor in all cases that have come under my care, without regard to the condition of the lens or iris, and I have yet to report my first failure or that the "retractor" failed to do all that I expected; nor can I say that I have had any more irritation of the iris than is produced by the forcing of the lens through the pupillary space, without the use of the retractor.

De Wecker, of Paris, in his masterly work on Ocular Therapeutics, page 270, speaking of the operation without iridectomy, says: "And I must say further, that I never meet with any specialist who can be considered competent to form an opinion in such a matter but shares my views, and has abandoned the old notions about irritation of the iris being due to cortical matter or *traction*.* It must be confessed that in the important operation of extraction a step *useless* and to a certain extent injurious can not as yet be dispensed with; greater security is rightly preferred to greater perfection; but, as in glaucoma, we shall *eventually be freed* from a difficulty which caused eyes to be unnecessarily mutilated." He evidently considers the iris only as a mechanical impediment to the exit of the lens, and does not dread the traction on that membrane.

I do not offer you the statistics of a large number of cases, but I think this number should prove to you the worth of the use of the retractor; as to myself, my confidence has only increased, and I feel positive that the entrance of this little instrument (so easily sterilized) into the eye, and the slight pressure it exerts on the delicate iris as it is pushed back, can in no way interfere with the ultimate results of the operation.

This method does not prevent a subsequent iritis nor the adhesions of the iris to the torn capsule, *but* it does *assist* us very materially in the ready *exit* of the lens and the *return* of the iris to its normal position after the lens has been extracted, and so removes the secondary difficulty of replacing the iris with the small spatula, with the necessary manipulations of this procedure.

In all my operations I have followed all these steps to the completion, not adopting any very rigid antiseptic rules, but endeavoring to have everything as clean as possible, as I believe that the success of all cataract operations depends more upon the skill and method of the operation than upon the manner of using our antiseptics. I have used cocaine hydrochloride in all these operations except two, when I was compelled to use ether, as my patients could not be trusted to keep quiet. Using only sufficient cocaine to render the cornea completely anæsthetic—a result I have generally obtained with a few drops of a four-per-cent. solution—the conjunctival sac is then washed with a saturated solution of boric acid and the speculum introduced.

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* The Italics are mine.

Grasping the eyeball with the fixation forceps on the opposite side of the cornea to which I propose to make the section, a narrow-bladed Graefe knife is then introduced, wholly within the corneal tissue just beyond the limbus, carried quickly across the anterior chamber with the edge of the blade about even with the pupillary edge, and the counter-puncture is made about in the same position as the first. As soon as the point of the knife passes beyond the cornea, it is carried downward and onward quickly, and then followed by the heel on the other side of the cornea; then turning the knife slightly on its axis at an angle of 45° from the horizontal, the section is completed. If this step is carried out quickly and with only three distinct cuts, the edges will be perfectly coapted and heal readily; at the same time we will probably avoid wounding the iris.

I now take the cystotome and pass it through the section and pupillary space until its blade is a short distance beyond the pupillary edge. The point is then turned downward, and I make as extensive a peripheral incision of the anterior capsule as possible without wounding the iris.

The fixation forceps is now passed to an assistant to hold the eyeball steady, and with the little set screws I adjust the blades of the retractor to the distance I wish them to be opened. The retractor is then closed and passed through the section to the pupillary space, when the blades are opened, and held there by simple pressure of the fingers. Now, drawing back the retractor, the little knobs on the ends of the blades catch on the pupillary edge, and the iris is drawn backward and slightly downward until it is "tucked back," in about the position of full dilatation of that part of the iris between the blades. Holding the iris in that position, I make very gentle counter-pressure on the opposite part of the cornea with the spoon, and the lens readily passes outward.

As the lens rises in the section, I pass the retractor toward the center or inward, and, raising the ends, I release the iris, and the retractor is removed, with the lens generally lying in the concavity of the blades.

As the lens clears away, we find the iris back in its natural position. Should there be any cortex remaining, I endeavor to remove it by very gentle manipulation, while, if any large masses should remain behind the iris, the retractor may be introduced again, the iris drawn back, and the masses pressed out with a spoon. Following out these steps, I have rarely had any prolapse of the iris, nor loss of vitreous at the time of operation.

After-treatment.—I do not use atropine or eserine after the operation, but, the flap being in good position, both eyes are closed and bandaged. If the patients are in the hospital, they are put to bed, or, in some of these cases where I had operated at the New York Dispensary, they were sent home and told to go to bed and stay there until I saw them. I keep them in bed two or three days, changing the bandages daily and washing the lids. On the third day the eye not operated on is opened, and the patient allowed to sit up. If all is well and the lids look natural, I open the eye on the fifth day, and, if the section has healed and the anterior chamber reformed, the eye is closed again, and the bandages are changed every day until the tenth or twelfth, when I remove the bandage and use dark glasses for about a week, according to the condition of the eye. I prefer not to use atropine at any time, unless there are some symptoms of iritis, as it seems to be useless and in some cases irritates the conjunctiva when the eye is constantly bandaged, nor do I think it will prevent the adhesions of the torn capsule to the iris.

In May, 1887, I reported my first four operations, and since then I have operated sixteen times, making twenty operations without a failure, and with vision ranging from $\frac{20}{30}$ to $\frac{20}{200}$; while I believe that, had these patients been educated, instead of ignorant and unfamiliar with our language, my results would have been much better, as nearly all of these cases were from my clinic at the New York Dispensary, and coming from the lower wards of the city.

In closing, I would state that the use of this retractor will not prevent secondary prolapse of the iris, nor any of the other complications that may arise during the healing process, but I have come to the following conclusions:

That the introduction of this instrument into the anterior chamber can in no way endanger the success of the operation.

That the slight pressure on the iris as it is "tucked back" by the retractor does not injure that membrane, nor tend to cause any subsequent iritis.

That, in all cases of hard senile cataract, it will greatly assist the exit of the lens and the return of the iris to its normal position.

That, in soft cataracts, it can also be used to keep the iris out of the way as the soft masses are gently pressed out with the spoon.

That, in cases of dislocated lens, it will assist the extraction by passing the ends beneath the lens, and prevents it from sinking in the vitreous.

That its use is perfectly safe, and that it may be readily withdrawn from the eye at once in case any necessity for it should arise.

That it requires much less pressure on the eyeball to produce the exit of the lens, thereby lessening the possibility of prolapse of the vitreous.

The Tenth International Medical Congress.—In behalf of the American Committee, Dr. A. Jacobi writes as follows: "In a letter dated Berlin, Karlstrasse, 19, March 22d, Dr. Lassar, the Secretary-General of the Tenth International Congress, directs me to inform the medical profession of America that a programme of the Congress and other communications will be distributed two months before the meeting among *those who have registered previously and received their tickets of membership.* The latter can be obtained by sending an application and five dollars to Dr. Bartels, Leipzigerstrasse, 75, Berlin, S. W. By so doing, the members will save much crowding and time during the first days of the Congress."

A Hindoo Custom.—"An inquest recently held in Calcutta on the body of a wealthy Hindoo disclosed a curious custom. The deceased had suffered from malarial fever, and after his death arsenic and mercury were discovered in the stomach. A servant stated that, an hour before the death of the deceased, a dose of medicine properly prescribed was administered as a stimulant. The coroner explained that this medicine contained mercury, which, along with other poisonous drugs, is given to patients on the point of death. The jury returned a verdict of death from natural causes—to wit, malarial fever."—*British and Colonial Druggist.*

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QUESTIONS CONCERNING THE CÆSAREAN SECTION.

No one has a right to speak with greater authority upon this subject than Sänger. An article which he has contributed to a recent number of the Centralblatt für Gynäkologie gives a brief history of the operation since the publication of his paper of eight years ago, in which he advocated improvements and modifications of the old, classical, and in many ways faulty operation. With candor he admits that some of his propositions at that time have properly been superseded by others. He considers the fundamental elements to success in this operation to be asepsis and the proper suturing of the uterine wound. The five necessary steps are incision of the abdomen, incision of the uterus, extraction of the uterine contents, suture of the uterine wound, and suture of the abdominal wound. He thinks the danger of hæmorrhage has been overestimated. If the uterine wound is properly closed, there can be no hæmorrhage except from the interior of the organ, and if the organ is in a state of atony, that will occur even when delivery has been accomplished through the natural channels. This leads him to lay down the absolute rule that the operation should not be performed until labor has begun, and the most auspicious time is toward the close of its first stage. Those who have performed it before the conclusion of the usual term of pregnancy have usually had occasion to regret it. He favors Dührssen's method of tamponing the uterine cavity with iodoform gauze should atony with hæmorrhage occur. He also has positive opinions respecting the use of the elastic ligature for the constriction of the uterus during the operation, believing that unless the constriction is moderate and of short duration atony and hæmorrhage will be encouraged. Schauta's method of constricting the uterus with the hands is recommended as a good one, though not always easy of accomplishment. A better method would consist in throwing a broad bandage of some antiseptic material around the organ and constricting it with the hands to the necessary degree. He is decidedly in favor of the longitudinal incision in the anterior wall of the uterus rather than the transverse incision of Kehrer or the longitudinal incision in the posterior wall of Cohnstein, even though the placenta is implanted upon the anterior uterine wall. Washing out the uterus with antiseptic solutions is deemed unnecessary and in some cases injurious, and even the toilette of the peritonæum need not be very elaborate, as it is now believed by competent observers that a moderate quantity of blood, serum, or cystic fluid in the abdominal cavity does no harm.

These are the main points of this very useful article. It is interesting to note the increasing measure of success that is attending this operation everywhere, but especially in our own country. There are doubtless unsuccessful cases among us still, but at least in those that are published—and there is scarcely a week in which a report of one does not appear in one or another of our journals—we no longer see the dismal record which was so mortifying and disheartening a few years ago. With increasing experience in abdominal surgery, especially on the part of some of our younger men, there is danger that the operation will be done when delivery might safely be accomplished *per vias naturales.* It should not be forgotten that this is not an operation of election, but of necessity, and no burning zeal for capital surgery, even though one is skillful and ambitious, will justify its performance save in extreme cases. What are extreme cases? This is a question upon which no hard and fast lines can be drawn. It must be decided with full consideration of the responsibilities of the matter, and with a judgment that weighs with even balance the all-important interests at stake.

THE EHRLICH TEST FOR TYPHOID FEVER.

However satisfactory the isolation of the typhoid bacillus from the fæces or blood of a typhoid patient may be to the diagnostician possessing the facilities of a bacteriological laboratory, it must be confessed that it can not well be adopted as a routine method by the ordinary practitioner, granting that private patients would always be complaisant and permit of the introduction of a hypodermic needle to obtain blood from the spleen. The mass of literature that records the protean phases of this disease, and the acknowledged fallibility of all symptoms excepting those of the inflammation of Peyer's patches and the solitary glands, that can, unfortunately, be inspected only when it is too late to benefit the patient, sufficiently attest the desirability of some new method to confirm the diagnosis.

Recently two observers have reported favorably on the method by Ehrlich's test, a test that can not well be called new, having been published in 1882, but that does not seem to have attracted much attention. Two solutions are prepared: one containing seventy-two minims of hydrochloric acid and ten grains of sulphanilic acid in three ounces of distilled water; and the other a freshly prepared half-per-cent. solution of sodic nitrite in distilled water. Twenty-five parts of the first solution and one part of the second are mixed with twenty-six parts of the patient's urine, and the mixture is rendered alkaline by the addition of strong ammonia-water. In urine from a typhoid-fever patient a bright orange-red color appears.

Dr. Howard Taylor, in the Lancet, about a year ago, reported a number of experiments that he had made with the test. In normal urine a mere deepening of color was observed, and, while this was usually of a brown color, very rarely a faint reddish tint was discernible. In albuminous urines the red color was occasionally observed, but almost invariably the patients had high temperatures. Out of a large number of cases of heart disease, only once did the urine give the red reaction. And once in six cases of chorea the reaction was obtained. In measles the reaction was rather common, but it was absent in diabetes, in acute tuberculosis, and in lobar and lobular pneumonia. The reaction was always obtained in typhoid fever, and the author concludes that if the disease has lasted a week the deep rose-color of the urine is good confirmatory evidence that the case is one of enteric fever. It is to be noted that the diseases that have occasionally given the reaction are not apt to present symptoms that might be mistaken for those of typhoid fever.

Confirmatory of the value of the test is the recent report of Dr. Pasteur, of the Middlesex Hospital. In seven cases of genuine typhoid fever the reaction was well marked during the first fortnight, though the test failed in two cases after the end of the third week. In one case of supposed typhoid the test failed, and the necropsy revealed a healthy small intestine, but an ulcerated colon. The test also failed in febricula, pneumonia, purulent peritonitis, and perityphlitis.

The special value of the test seems to be in the early stage of the disease, when the difficulty of diagnosis is greatest. The reaction seems to be due to the ptomaine formed in typhoid fever, and the formation of a similar alkaloid in some other diseases is probably the reason for the occasional result obtained. It might be worth while to make more frequent use of a test that is so easily applied, and that seems always to call forth the characteristic reaction with urine from a typhoid-fever patient.

MINOR PARAGRAPHS.

PHYSICIANS' BOOKS OF ACCOUNT ARE "PRIVILEGED."

A local court has decided that a debtor who is a physician can not be compelled to deliver up his books of account to his receiver, who has been appointed in proceedings supplemental to execution. By the order appointing the receiver the latter acquired title to the accounts but not to the books as well. "In the complicated affairs and relations of life the counsel and assistance of clergymen, physicians, and lawyers often become necessary, and to obtain them men and women are frequently forced to make disclosures which their welfare and sometimes their lives make it necessary to be kept secret. Hence, for the benefit and protection of the confessor, patient, or client, the law places the seal of secrecy upon all communications made to those holding confidential relations, and the courts are prohibited from compelling a disclosure of such secrets. The safety of society demands the enforcement of this rule." For this reason it is held that the physician's account books, containing information which would be privileged as concerns his patients, are not subject to discovery and inspection in an action between the physician and a third person.

A NEW JOURNAL OF BALNEOLOGY.

Dr. Kállay, of Karlsbad, announces the approaching publication, in Vienna, of the Medizinische Revue, to be edited by him, with the collaboration of Professor Senator, Professor Liebreich, Professor Zuelzer, Professor Eulenburg, Dr. Boas, Dr. Nathan, and Dr. Brock, of Berlin; Dr. Frey, of Baden-Baden; Professor Magnus, of Breslau; Professor Rossbach, of Jena; Professor Küssner, of Halle; Dr. Nordau, of Paris; Professor Mavrogeny, of Constantinople; Professor Stoffella, of Vienna; Professor Winternitz, of Wien-Kaltenleutgeben; Professor Kétli, of Budapest; Professor Mosler, of Greifswald; Dr. Hoffmann, of Alt-Haide; Dr. Schott, of Nauheim; Professor Ott, of Prag-Marienbad; and others. It is to be devoted chiefly to balneology, hydrotherapeutics, mechanotherapeutics, dietetics, and hygiene, and will be published fortnightly, the first number being dated April 15th. Dr. Kállay's experience at Karlsbad and his literary acquirements are a strong guarantee of the success of his undertaking.

"PURE LARD" AND COTTON-SEED OIL.

There has been a great outcry against adulterated lard of American make, and perhaps this outcry, more than any well-founded dread of harmful adulteration, has led Congress to consider the propriety of taking measures, in the stereotyped shape of a tariff provision, to cripple such an industry as that, for instance, in which cotton-seed oil—a harmless, palatable, and nutritious substance—is added to lard or substituted for it. What Congress might reasonably do is to compel the sale of such an article under its proper name, but, under any name, its consumption seems to us to be preferable to that of the so-called "pure" lard which, if certain testimony before the Congressional Committee is to be credited, depends for its purity on the fact that it is made wholly from the hog, including portions of that animal's anatomy that were enumerated by one witness as "guts, paunches, bum-guts, and pizzles."

THE ADIRONDACK SANITARIUM.

According to the last annual report of the Adirondack Sanitarium, at Saranac Lake, the results of the plan of treatment there adopted in regard to its phthisical inmates have been such as to warrant the continuance and the amplification of the experiment. The establishment of other similar institutions in favorable localities may be looked for as these results become known. Of the ninety-six persons under treatment during the past nine months, eight are reported as cured, seventeen as restored to lives of usefulness, seventeen as somewhat improved, and forty-two as yet under treatment. Of those who were not benefited—twelve in number—eleven were returned to their homes when it was found that they continued to lose ground; in one case death occurred. The financial part of the report is eminently satisfactory.

THE HOT-AIR TREATMENT OF CONSUMPTION.

On several occasions we have mentioned this subject, setting forth the substance of what we considered the best that had been said in favor of the treatment and against it. Of late we have received a number of letters from physicians in various parts of the country, asking for our opinion of its merits. We wish to say, therefore, that, while the theory on which the plan is founded may be to some extent correct, our information in regard to the results that have been obtained with the method in the hands of competent and unprejudiced investigators is not of a character to warrant us in saying to our readers that they may expect to accomplish anything unusual in the way of benefit to their patients by its employment.

THE NEW YORK PASTEUR INSTITUTE.

The director of this institution, which was opened at No. 178 West Tenth Street on the 18th of February, informs us that, from the 20th of that month to the 31st of March, about thirty persons applied for treatment, only nine of whom was it thought advisable to detain. All these nine persons received the Pasteur treatment and are now in good health. The animals that had bitten three of them were shown experimentally to have been rabietic, and in the six other cases the same state of things was very probable. Four of the applicants belonged in the city, three were from Long Island, one was from Maryland, and one was from Arkansas. To guard against accidental infection during the work, Dr. Gibier inoculated himself and three of his assistants. Five of the nine patients were treated gratuitously.

THE PHONOGRAPH AS AN ACOUMETER.

A paper on this subject was read by Dr. C. W. Stimson at a recent meeting of the Society of the Alumni of Charity Hospital, and the practicability of putting the instrument to such a use was discussed by Dr. Noyes, Dr. Webster, Dr. Moore, Dr. Andrews, Dr. Mittendorf, Dr. Peck, and others. Dr. Webster thought that there must be some bone conduction, owing to the insertion of the tubes into the ear, and that this would, of course, be the source of a certain amount of error. Dr. Andrews and Dr. Peck urged the necessity of using the human voice as a test. It was remarked that the system of graded bell-sounds, as introduced by Dr. Stimson, was undoubtedly of value, but it was the human voice that deaf persons wanted to hear, and that, inexact as it was, must remain a part of any acoumetric test.

INFLUENZA AND THE LENTEN SEASON.

The special dispensation wisely granted by the Pope regarding the recently expired lenten season has been variously quoted by the public press. According to some, convalescents only who had had the grippe were to be relieved from fasting and abstinence during Lent, but, according to the British Medical Journal, the Papal release was far more wide-reaching and preventive than that, and applied to the countries where influenza had prevailed. Other things being equal, epidemic influenza might be expected to fall with special violence on any community that had but recently passed through a season of prolonged denutrition, whether from a religious or from any other cause.

A NEW PATHOLOGICAL LABORATORY FOR THE UNIVERSITY OF TORONTO.

The Medical Faculty of the Toronto University has organized with a view to the building up of a fully-equipped pathological laboratory in conjunction with the other departments of the university, which must all be built up anew to remedy the losses by the recent destructive fire. The faculty propose to raise a special fund which may be expended so as to enlarge the basis of pathological instruction and laboratory work beyond that point where it must otherwise rest in the course of the university's rebuilding.

ITEMS, ETC.

The British Medical Association.—For the Section in Laryngology and Rhinology, at the fifty-eighth annual meeting, to be held in Birmingham on the 29th, 30th, and 31st of July and the 1st of August, these subjects have been proposed for discussion: The Treatment of Laryngeal Disease in Tuberculosis, and The Ætiology, Significance, and Treatment of Spurs and Deflections of the Nasal Septum. After these discussions have taken place independent papers will be read and discussed. Gentlemen intending to co-operate in the work of the Section are asked to send early information to Dr. Scanes Spicer, 28 Welbeck Street, Cavendish Square, London, W.

Bequests.—We are informed that the late Mr. Daniel B. St. John, of Newburgh, N. Y., bequeathed $10,000 to the New York Post-graduate Medical School and Hospital and a like sum to St. Luke's Hospital of Newburgh.

The New York Odontological Society.—At the last meeting, held on Tuesday evening, the 15th inst., at the Academy of Medicine, Dr. L. Duncan Bulkley read a paper on The Dangers arising from Syphilis in the Practice of Dentistry.

Change of Address.—Dr. F. M. Bauer, to No. 225 East Eighty-sixth Street.

The late Dr. Henry H. Smith, of Philadelphia.—The death of Dr. Smith, a well-known hospital surgeon and professor of surgery in Philadelphia, occurred on Friday, the 11th inst. He was seventy-four years old. Dr. Smith attained distinction as a military surgeon during the War of the Rebellion and subsequently as a writer on surgical subjects.

The late Dr. Thomas C. Finnell.—Dr. Finnell died at his home in New York on Wednesday, the 9th inst. He was a graduate of the Medical Department of the University of the City of New York, of the class of 1849. For many years he was conspicuous as a contributor of pathological specimens at the meetings of the New York Pathological Society, and as a physician of large practice.

The late Dr. Edward W. Owen, of Brooklyn.—Dr. Owen died on March 30th, aged seventy-seven years. He was a graduate of the Castleton Medical College, of the class of 1846. He was one of the oldest and best known of the practitioners of the district in which he resided, and a genial and polished gentleman of "the old school."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 30 to April 12, 1890:*

Skinner, J. O., Captain and Assistant Surgeon, Fort Ontario, New York, is hereby granted leave of absence for one month, to commence forthwith, as his services may be required with troops to change station early in May. Par. 5, S. O. 75, Division of the Atlantic, April 2, 1890.

Taylor, Marcus E., Captain and Assistant Surgeon. The leave of absence granted for one month by Paragraph 3, S. O. 26, c. s., Headquarters, Department of the Columbia, is hereby extended one month, on surgeon's certificate of disability. Par. 1, S. O. 19, Division of the Pacific, March 27, 1890.

Vollum, Edward P., Colonel and Surgeon; Sternberg, George M., Major and Surgeon; McElderry, Henry, Major and Surgeon; and Cochran, John J., Captain and Assistant Surgeon, are, by direction of the Secretary of War, hereby constituted a board of medical officers to meet in New York city on the 28th day of April, 1890, or as soon thereafter as practicable, for the examination of assistant surgeons for promotion and of candidates for admission into the Medical Corps of the Army. The board will be governed in its proceedings by such instructions as it may receive from the Surgeon-General. Par. 6, S. O. 78, A. G. O., April 3, 1890.

Mason, Charles F., First Lieutenant and Assistant Surgeon, is granted, by direction of the Secretary of War, leave of absence for two months, to take effect on or about April 15, 1890. Par. 3, S. O. 76. A. G. O., Washington, April 1, 1890.

By direction of the Secretary of War, the following changes of stations of officers of the Medical Department are ordered:

Lauderdale, John V., Major and Surgeon, from Fort Davis, Texas, to Fort Ontario, New York.

Skinner, John O., Captain and Assistant Surgeon, from Fort Ontario, New York, to Fort Davis, Texas.

Perley, H. O., Captain and Assistant Surgeon, from Fort Wayne, Michigan, to Fort Mason, California.

Burton, H. G., Captain and Assistant Surgeon, from David's Island, New York, to Vancouver Barracks, Washington.

Hopkins, William E., Captain and Assistant Surgeon, from Fort Mason, California, to Fort Columbus, New York Harbor.

Stephenson, William, Captain and Assistant Surgeon, from Fort Verde, Arizona, to David's Island, New York.

Willcox, Charles, First Lieutenant and Assistant Surgeon, from Fort Columbus, New York Harbor, to Fort Bowie, Arizona.

Par. 2, S. O. 83, A. G. O., Washington, D. C., April 9, 1890.

Wood, Marshall W., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Randall, South Dakota, and will report in person to the commanding officer, Fort Meade, South Dakota, for duty at that post, reporting by letter to the commanding general, Department of Dakota. Par. 24, S. O. 82, Headquarters of the Army, A. G. O., Washington, April 8, 1890.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 34, March 20, 1890, Department of the Missouri, is extended fifteen days. Par. 22, S. O. 81, Headquarters of the Army, A. G. O., April 7, 1890.

O'Reilly, Robert M., Major and Surgeon. By direction of the Secre- of War, the leave of absence granted in S. O. 24, October 16, 1889, amended by S. O. 252, October 29, 1889, both from this office, is extended one month. Par. 30, S. O. 81, A. G. O., April 7, 1890.

Taylor, Arthur W., Captain and Assistant Surgeon. By direction of the Secretary of War, leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Division of the Pacific, is granted. Par. 10, S. O. 78, A. G. O., Washington, April 3, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending April 12, 1890:*

Ferebee, N. McP., Surgeon. Ordered to the U. S. Steamer Essex.

Anderson, Frank, Passed Assistant Surgeon. Detached from the U. S. Steamer Dolphin, and ordered home.

Griffith, S. H., Passed Assistant Surgeon. Detached from the Museum of Hygiene, and ordered to the U. S. Steamer Dolphin.

Heffenger, A. C., Passed Assistant Surgeon. Ordered to temporary duty at the Navy Yard, Portsmouth, N. H.

Simons, Manly H., Surgeon. Ordered to superintend repairs at Widows Island Hospital in addition to present duties.

White, S. S., Assistant Surgeon. Detached from the U. S. Steamer Minnesota, and to await orders.

Harris, H. N. T., Assistant Surgeon. Ordered to the U. S. Steamer Minnesota.

Society Meetings for the Coming Week:

Monday, *April 21st:* Mississippi State Medical Association (first day—Jackson); New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *April 22d:* Medical and Chirurgical Faculty of Maryland (first day—Baltimore); Texas State Medical Association (first day—Fort Worth); Mississippi State Medical Association (second day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Society of the County of Putnam (quarterly), N. Y.; Hunterdon, N. J., County Medical Society (Flemington); Litchfield, Conn., County Medical Society (semi-annual).

Wednesday, *April 23d:* Medical and Chirurgical Faculty of Maryland (second day); Texas State Medical Association (second day); Mississippi State Medical Association (third day); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Philadelphia County Medical Society.

Thursday, *April 24th:* Medical and Chirurgical Faculty of Maryland (third day); Texas State Medical Association (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private—annual); Pathological Society of Philadelphia; Hartford, Conn., County Medical Association (annual).

Friday, *April 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *April 26th:* New York Medical and Surgical Society (private).

Letters to the Editor.

THE QUANTITATIVE DETERMINATION OF SUGAR IN URINE.

Chicago, *April 10, 1890.*

To the Editor of the New York Medical Journal:

Sir: Since the publication of my formula for the quantitative determination of sugar in urine, in your issue of March 8th, I have received numerous notes of inquiry thereon, and, as I have since further simplified the original formula as well as extended its scope to include a ready approximate method of analysis, I should be glad if you would insert the following additional suggestions in reference to my test in your Journal as supplementary to my communication of March 8th.

First, with regard to the formula, it may be simplified by omitting the mannite and increasing the quantity of ammonia. Thus improved it stands as follows:

Cupric sulphate, pure.............	4·15	grammes;
Caustic potash, pure..............	20·4	"
Strong ammonia (sp. gr. 0·90)......	350	c. c.;
Pure glycerin......................	50	c. c.;
Distilled water..................to	1	litre.

Prepare by dissolving the copper sulphate in part of the water and adding the glycerin. In another portion of the water dissolve the caustic potash. Mix the two solutions and add the ammonia. Finally, with distilled water bring the volume of the whole to one litre and filter.*

Thus prepared, 30 c. c. (f ℥ j) of the solution is reduced by one quarter of a grain of grape sugar upon boiling.

The mannite being omitted renders the formula more easily prepared, and, moreover, it proves more convenient, since in the smaller towns mannite is rarely kept in ordinary drug stocks.

To determine accurately the quantity of sugar in any given sample of urine proceed as follows:

Add 30 c. c. (f ℥ j) of the test solution to a similar volume of distilled or soft water in a glass flask and boil. While gently boiling, add the urine to be tested slowly, drop by drop, from a minim dropper, until the blue color *begins to fade;* then continue dropping, but more slowly—ten or twelve seconds elapsing between each two drops. The number of minims which completely discharge the blue color contain just one quarter of a grain of sugar.

Upon cooling, it will be observed that the blue color slowly returns to the test solution. This is due to absorption of oxygen from the atmosphere, reconverting the suboxide into blue protoxide of copper. The standard of 30 c. c. (℥ j) has been adopted in testing instead of 25 c. c., since the former permits thorough boiling of the test and gives more accurate results. In all cases in which it is desirable to obtain absolutely accurate results as to fractions of grains, the above-described method of procedure is confidently recommended.

In addition to this, I have adapted the same formula to an approximate method, which will be found very simple and convenient for general use, as follows: First dilute the urine to be tested with an equal volume of water. Next measure accurately one drachm of the test solution into an ordinary test tube and heat to boiling over a spirit lamp. With a minim pipette, or one the point of which is sufficiently large to drop minims, discharge the diluted urine, drop by drop, into the boiling test solution until the blue color completely disappears. If one minim of the diluted urine discharges the blue color of the test, the urine contains thirty grains of sugar to the ounce or over. If it requires two drops to discharge the blue color, the urine contains between fifteen and thirty grains to the ounce. If it takes three drops to eliminate the blue, there are between ten and fifteen grains to the ounce. If it requires four drops, there are between seven and a half and ten grains to the ounce. If five drops, there are between six and seven grains to the ounce. If six drops are required, there are between five and six grains to the ounce. If eight drops are required, there are between four and five grains to the ounce. If ten drops are required, there are from three to four grains to the ounce. If it takes fifteen drops, there are between two and three grains to the ounce. If the blue color is not discharged by fifteen drops, the urine contains less than two grains of sugar to the ounce.

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* This solution is prepared for me and kept in stock by Messrs. Gale and Blocki, 44 and 46 Monroe Street.

In testing, the first five drops of urine should be very slowly added—about five or six seconds elapsing between each two drops, during which time the solution should be kept boiling. After five drops have been added the solution may be kept boiling and the diluted urine added drop by drop continuously but slowly until the blue color completely vanishes or until fifteen minims have been added.

The relations of the test to the number of minims required may be seen at a glance in the table below:

One drachm of the test solution, if reduced by

1 minim	of diluted urine,	30 grains of sugar or over;		
2 minims	"	15 to 30 grains to the ounce;		
3 "	"	10 to 15	"	"
4 "	"	7½ to 10	"	"
5 "	"	6 to 7½	"	"
6 "	"	5 to 6	"	"
8 "	"	4 to 5	"	"
10 "	"	3 to 4	"	"
15 "	"	2 to 3	"	"

By careful attention to details as above indicated in testing, the results may be depended upon as very accurate within the ranges specified. Charles W. Purdy, M. D.

HYDROGEN PEROXIDE IN DIPHTHERIA.

Seaton, Ill., *April 4, 1890.*

To the Editor of the New York Medical Journal:

Sir: Since writing my article on the use of sodium sulphite in the treatment of scarlatina I have had six additional cases, all in adults, in which the sulphite has acted equally well. The pulse ranged from 100 to 120, and the highest temperature attained was 103° in one case; in the others, 101° to 101·6° Two of the patients had severe throat trouble, the tonsils, arches, uvula, and parts of the side walls of the pharynx being covered with diphtheritic membrane.

I had somewhere read, a short time before, a note on the treatment of diphtheria with peroxide of hydrogen. I determined to try it in these cases. And it is to call attention to it in this connection that I write this note. The strength of the article I used is not marked on the bottle, but I presume it is the ordinary ten-volume solution. I armed an applicator with a pledget of absorbent cotton, saturated it with the peroxide of hydrogen, and rubbed it over the membrane several times. The effect was magical. The membrane did not dissolve, but softened, took on the appearance of "whipped cream," let go its hold on the mucous surfaces, was easily removed with the applicator, and left a raw surface, showing the membrane to have been really diphtheritic. It did not seem to prevent the formation of new membrane, but it left a clean surface to which other antiseptics were applied, and, I think, prevented the least approach toward blood poisoning. I think it worthy of an extended trial by those who have cases of diphtheria to treat. I had it applied once every hour for four or five days before the membrane ceased to form. Thomas A. Elder, M. D.

Proceedings of Societies.

THE SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

Meeting of February 5, 1890.

The President, Dr. Richard Kalish, in the Chair.

A Case for Diagnosis.—Dr. E. Le Fevre presented a German shoemaker, forty-four years old, whose case presented considerable difficulty in diagnosis. The man gave a distinct history of syphilis, and at present complained of impaired vision and pains along the spine. A tumor could be felt over the sternal notch, but the time it was first noticed was somewhat doubtful, as the patient told the speaker it had been there ever since he was eighteen years of age, but stated to another member of the society, under whose care he had formerly been, that its presence was not noticed until after he became syphilitic. As the tumor increased in size, it had interfered somewhat with deglutition. During the past three years he had suffered from dyspnœa on slight exertion. Percussion revealed diminished resonance over the upper half of the sternum, and over the same area a grazing sound was audible on deep inspiration. The most peculiar feature of the case was that with each deep inspiration there was a marked descent of the diaphragm, with a decided sinking in of the thoracic walls. This peculiar respiratory movement had not been noticed until he was told to take a deep inspiration while the chest was being auscultated. His occupation as a shoemaker would subject the lower part of the chest to considerable pressure, but this fact did not help to explain the curious phenomenon. His spinal pains might be attributed to his having fallen down stairs. While under the care of Dr. Gibbs he had been taking one grain of the green iodide of mercury daily. Could the peculiar respiratory movement be attributed to a neurosis?

Dr. L. W. Hubbard thought that the peculiar respiratory movement was the result of habit. There was some projection of the spine at the eighth dorsal vertebra, but there was no rigidity, and no evidence of disease of the bone.

Dr. R. J. Carlisle said that he had been watching the breathing unobserved by the patient, and the peculiar respiration was not seen during this time; hence he considered the patient a malingerer.

Dr. J. B. Gibbs said that while the patient was under his observation nothing peculiar about the respiration had been noticed.

Dr. C. L. Dana thought the patient seemed hysterical, and this might readily explain the peculiar respiratory rhythm.

Tracheal Ozæna.—Dr. G. B. Hope read a paper with this title. (To be published.)

In answer to a question as to whether tracheal ozæna gave rise to any constitutional disturbance, Dr. Hope stated that there was a great deal of dyspnœa and discomfort, but no symptoms indicating absorption and general infection of the system.

The Clamp-and-Cautery Operation for Hæmorrhoids.—A paper with this title was read by Dr. Gibbs. (To be published.)

The discussion was opened by Dr. Kelsey, present as a guest of the society, who said that he had formerly advocated the method by ligation, but had been induced to try the cautery operation, and had found it as useful as the other, while presenting several additional advantages. He did not know that he could add very much to what his associate, Dr. Gibbs, had already said in favor of it, but would like to emphasize one or two points. Smith's clamp had blades armed with ivory in order to prevent scorching of the mucous membrane outside of the field of operation; but he had found this unnecessary, and, as it added considerable to the thickness of the blades, he had discarded the ivory portion. Mr. Smith never stretched the sphincter ani, but occasionally cut its fibers, and operated without an anæsthetic. The speaker always employed an anæsthetic, and began by stretching the sphincter with the thumb and fingers. The clamp was never applied to the cutaneous surface, and, if the hæmorrhoid was at the junction of the mucous membrane and the skin, the skin should be divided with scissors so as to make a groove into which the instrument would fit. The clamp was then firmly applied, and the pile cut off so as to leave a pedicle about a quarter to a third of an inch in length. This pedicle was necessary in order to leave sufficient tissue for the application of the cautery. The clamp was not a crushing instrument, for, after applying it as tightly as possible for fifteen minutes, the blood would flow into the hæmorrhoid again upon the removal of the clamp. Crushing instruments required to be very much stronger; but even Allingham, who had invented such an instrument, had made but little use of it. In this operation the clamp was the temporary ligature, and the cautery the permanent one. There was no better hæmostatic than the actual cautery, and its use was but a revival of the old surgical treatment employed before the ligature.

There was no more danger from secondary hæmorrhage upon the separation of the slough produced by the cautery than in the separation of that caused by the ligature, and there was decidedly less pain after this operation than from the ligature, for the reason that whatever was included in the clamp and cauterized was deprived of vitality, whereas the sensitive nerve filaments which were included in the ligature gave rise to great suffering. Besides this, the clamp operation, while curing as thoroughly as the ligature, did its work in much less time. In one case of enormous hæmorrhoids which had been treated by the clamp and cautery the patient went down stairs on the second day, and on the third day started for Colorado.

The speaker said that he had formerly been a very strong advocate of the method of injection with carbolic acid, and while his article on the treatment of two hundred consecutive cases by this method, without any accident, was in press, he met with his first unfortunate case. The operation was sometimes followed by an unusually large slough, or by a periproctitis or ischio-rectal abscess; whenever one injected an irritating fluid into a vascular tumor, it was impossible to limit its irritant action; and these bad results might follow with weak as well as with strong solutions. A patient was brought to his office by another physician who had injected on the previous week a fifty-per-cent. solution of carbolic acid into some hæmorrhoids. He had had two severe hæmorrhages already, another occurred in the office, and still another upon making a digital examination. There was a circumscribed slough of about the size of a silver dollar, which had opened into a vein. The most fatal objection, however, to the employment of this method of injection was that the results were found not to be permanent.

In comparing the different operations, it might be stated—

1. That the carbolic-acid treatment was not radical, and was dangerous on account of its uncertain action.
2. That ligation was radical and safe, but it caused a great deal of pain, and required the patient to remain in bed for ten or twelve days.
3. That the clamp-and-cautery operation was just as safe and as radical as the ligature, and caused less pain, and the patient got well more quickly.
4. Whitehead's operation, which consisted in "exsecting the whole pile-bearing area," was a good operation, and cured the patient; but it was no better than the clamp, and the operation was vastly more tedious, taking as many minutes as the other took seconds.

In answer to a question concerning the avoidance of stenosis, Dr. Kelsey said that Whitehead stated that he had never seen stenosis after his operation; but the speaker had seen it, and others would see it sooner or later. The success of Whitehead's operation depended entirely upon securing primary union between the rectum, which was pulled down to the skin, and the skin. If this failed, the large granulating surface must, after healing, leave a stricture. He had produced stenosis with the clamp-and-cautery operation in three consecutive cases, but this was owing to a neglect of certain precautions in operating, and would not occur again. It could be avoided by leaving a strip of normal mucous membrane half an inch wide between the clampings on each side of the rectum. When stenosis did occur, the stricture was very slight, and when once well dilated by the introduction of a soft-rubber bougie, it would never recontract. Stenosis with the clamp operation was no more common than with the ligature, and it could be avoided in both without interfering with the permanency of the cure.

Meeting of March 5, 1890.

The President, Dr. Richard Kalish, in the Chair.

A Case of Exophthalmic Goitre.—Dr. A. B. Pope presented a case of this disease in a man, forty years of age, who had had this malady for a year and a half. The case had come under his care about a month previous, and the diagnosis had been confirmed at the Vanderbilt Clinic. There was no enlargement of the thyreoid gland, and no want of co-ordination between the eyelid and ball, but there was a prominence of the eyeballs. There was no history of rheumatism, and his family history was good as regards specific trouble and nervous diseases. An examination of the heart showed no cardiac murmur and no notable hypertrophy. The chief symptoms complained of were loss of appetite, constipation, and insomnia. After remaining quiet for about thirty minutes, his pulse was found to be 140. One symptom of importance in connection with the case was the diminution of the "vital capacity," the greatest difference between the deepest inspiration and the fullest expiration being an inch and a half. The patient had been given five-minim doses of strophanthus three times a day, and had improved under this treatment. His pulse had been reduced to an average of 100, and his weight, which had been rapidly diminishing, was again on the increase.

Dr. Frederick Peterson had seen the case at the Vanderbilt Clinic, and had made a diagnosis by the prominence of the eyeballs with some tremor, the capillary congestion about the chest and face, and the tachycardia, together with the increased frequency of the pulse. Another positive symptom was the marked diminution in the electrical resistance.

Dr. E. Le Fevre had found that strophanthus gave temporary relief, but within a few days after its discontinuance the condition became even worse than it had been. He had been most successful with cases treated by galvanism. He related the history of one case which, after treatment by galvanism applied two or three times a week for five months, showed a reduction of the pulse to the normal. Even under considerable excitement it did not rise above 90. When patients were fully under the influence of strophanthus a blowing murmur might sometimes be heard over the heart, which seemed to be due to the action of the drug upon the heart muscle itself. In a person under thirty-five years of age the prognosis was good, but it was very bad if it occurred either primarily or as a relapse after this period. The diminution in vital capacity was owing to some nervous influence similar to that which gave rise to the rapid heart action.

Dr. W. N. HUBBARD had administered ergotin in conjunction with digitalis, and had found more benefit derived from the former drug, as shown by the return of the disagreeable symptoms when the ergotin was withheld. The prognosis was generally said to be unfavorable; but he had heard Dr. R. C. M. Page state in his lectures that he had cured such cases with iodide of potassium.

Dr. R. J. CARLISLE wished to know upon what theory strophanthus had been administered in Dr. Pope's case.

Dr. POPE replied that he had used this drug on account of its well-known effect in strengthening the heart, and reducing its frequency and raising the arterial tension. The prognosis seemed to depend very largely upon the duration of the disease, some cases being quite chronic, while others were acute. Dr. Bryson, who, he believed, had been the first to call attention to the diminution of the vital capacity, maintained that if the vital capacity fell below half an inch the prognosis was absolutely fatal. He did not think that strophanthus had had anything to do with the increase in the vital capacity in his case. On purely theoretical grounds, he was inclined to look upon the medulla as the seat of the trouble. An autopsy reported by Dr. White showed a number of hæmorrhages in the floor of the fourth ventricle; and a lesion at this point would readily explain the symptoms referable to the respiratory, cardiac, and vaso-motor centers.

Multiple Ligation for Varicose Veins.—The PRESIDENT presented, on behalf of Dr. PHELPS, two patients who had been operated upon by this method, one patient having had over seventy and the other over forty ligatures applied. This method of treatment had been fully considered by Dr. Phelps in a recent paper read before the society.

A Study of Alcoholism in the Bellevue Cells.—A paper with this title was read by Dr. C. L. DANA. (To be published.)

Dr. J. WEST ROOSEVELT said that it was very commonly supposed that alcoholism was rarely a febrile condition, and that such patients usually recovered. A little experience in the Bellevue cells would soon disabuse the mind of these notions. The increase in the number of cases of alcoholism treated there was explained by the more than proportionate increase in the population. The prevention of drunkenness was not to be brought about by legislation, for to be successful by this method required a very slow molding of public opinion, and such a process was not likely to occur in New York city because of the counteracting influence of the low foreign element. It was particularly difficult to regulate the quality of liquor sold, although there was much need for reform in this direction. Many cases of alcoholism, especially the febrile ones, simulated poisoning by the essential oils.

Dr. WILLIAM D. GRANGER, of the Buffalo State Asylum for the Insane, saw alcoholism only in patients who were committed for insanity, and who were for the most part discharged as "not insane." This swelled the number of those classified as "not insane," and furnished statistics which were used to the disadvantage of such institutions. The question of the relation of inebriety to mental defect was interesting, but it was one upon which there was the greatest divergence of opinion. Thus, in the Guiteau trial, Dr. Gray had said, in answer to the question, "What is dipsomania?" that it was drunkenness. On the other hand, Dr. Crothers said: "No inebriate is fully sane, and no criminal can be of sound mind long." It was very doubtful whether we should ever find out any certain relation between inebriety and psychical defect. It was difficult, if not impossible, for us to approach this subject with unbiased opinions, for moral training and feeling of moral responsibility, together with political questions, combined to prevent us from considering this theme as purely medical men. The subject invariably exhibited a hotness of discussion not found in connection with other medical topics. Dr. Dana's description of the acutely inebriate resembled closely that of the condition found in acute mania and other forms of acute insanity. In view of the large percentage of deaths reported, would it not be well to give a more extended trial of methods of restraint, such as the covered bed and the wet sheet?

Some Points to be observed in the Study of Inebriety.—Dr. MATTHEW D. FIELD read a paper with this title. (To be published.)

Mr. CLARK BELL, president of the Medico-legal Society, said that he had just heard about the treatment of alcoholism in the Bellevue cells; but why "cells"? Such patients should be treated in well-ventilated wards, and, if they really were treated in cells, this fact alone might partly explain the high mortality. The large number of cases was accounted for by the fact that there was a large number of arrests in this city for simple drunkenness. As regarded Dr. Field's paper, the question in its medico-legal aspect was one of the responsibility involved. The law of England and of all English-speaking countries had hitherto held that the fact of a man's being drunk at the time of the commission of a crime intensified the crime. But on this point a change was coming over the spirit of the judicial mind, and the medical profession should improve this opportunity. In a great fight there must be extremists like Dr. Crothers on the skirmish line, but the medical profession, both here and abroad, had pretty generally come to the conclusion that there was a disease called inebriety, which was not simple drunkenness, but a condition in which a man lost his self-control and was so dominated in his will by his appetite for drink as to be unable to control it, and therefore was unable to control his conduct. Most American judges were now willing to take into consideration this condition in estimating and deciding upon the question of responsibility. Our present criminal code had made a distinct advance in this direction by recognizing such a distinction. The law could not very well regulate drinking habits, but it could regulate very many of the evils which had been mentioned. The responsibility at the present moment rested upon the medical profession, and if they would speak thoughtfully and courageously to the people of this country they would find that the jurists, political economists, and sociologists would admirably second their efforts.

Dr. PETERSON said that the habit of moderate drinking was called a vice, while the habit of getting drunk was called inebriety. There was probably some pathological condition produced by both of these habits, for alcohol was a poison under every condition, and left a permanent impress upon the system. Although inebriety was a disease, he did not feel sure that it made the individual irresponsible.

Dr. F. H INGRAM agreed in a general way with what had been said. In 1886 he had made an elaborate review of the statistics on this subject, obtainable from reliable sources from every nation; and the statements varied from six tenths of one per cent. to about fifty per cent. as the proportion of cases of insanity caused by alcoholism. This great discrepancy was due to the fact that in Italy, France, Spain, and Germany the proportion of cases of insanity caused by alcoholism was very much smaller than in the other countries where stronger drinks were used. A fair average would be seven to twelve per cent. If these statistics were reliable, it followed that apple brandy or "Jersey lightning," in proportion to the number of persons who took it, was the most potent in producing mental derangement. Next in order came hard cider, then brandy and whisky, then white wines, and lastly red wines. As regarded the treatment of cases of alcoholism showing a tendency to delirium, he disapproved of the sudden and entire withdrawal of stimulants and the resort to strong sedatives, for, if the horror did come on, it would be more severe. This withdrawal of alcohol commonly gave rise to actual delirium and increased hallucinations. Nor did he approve of the administration of preparations of hyoscyamine, for this drug paralyzed the muscles, but did not proportionately lessen the mental activity. It dried the throat, causing great thirst, and the more water was given the worse the patient seemed to be. The covered bed was sometimes useful, although it only partly confined the patient. The best mode of treatment was to place the patient in a large room provided with two beds. Then roll him in a wet sheet, keeping it wet all the time, and transferring the patient from one bed to the other when it became necessary. An attendant should always be present, as such patients had a horror of being left alone. Lastly, the patient should have a small quantity of stimulant, with a little chloral and digitalis. Disease began and vice ended when the man no longer had the power to resist the craving for drink. These patients should not be held to be responsible; and yet in a recent murder trial, where Dr. Field and the speaker had taken this ground, the accused man was held to be responsible, and was afterward hanged. This was certainly a judicial murder.

Dr. Dana said that it had been proposed to provide the patients who now occupied "the cells" with a proper pavilion. Such an arrangement would probably greatly lessen the mortality. The majority of those who had had experience with alcoholic cases were in favor of the entire withdrawal of alcohol, except in a few rare instances. The legal view of drunkenness was, in the present state of our knowledge, the safest one for society.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 20, 1890.

The President, Dr. Alfred L. Loomis, in the Chair.

The Relation of Peripheral Irritation to Disease.—Dr. D. B. St. John Roosa opened a discussion on this subject by a paper entitled The Relation of Ocular Irritation to Disease. (See page 425.)

Dr. C. S. Bull said he could only emphasize the conclusions of Dr. Roosa. It seemed almost puerile for any experienced ophthalmologist to seriously discuss ocular reflexes as a cause of central functional nervous diseases. Dr. Roosa had placed before the medical profession the views held by conservative ophthalmologists of the present day. After twenty years of practice, the speaker felt bound to consider the subject which had been before them for so many months, and which, he trusted, had reached its climax that night, as being among the most unfortunate in the history of ophthalmology. He hoped he might assume that this chapter was now closed.

The Relation of Peripheral Irritation to Disease, as manifested from the Throat and Nose.—Dr. Beverley Robinson, speaking on this division of the subject, thought that during the past few years specialists in laryngology had attributed too much importance to irritations of the throat and nasal passages as a causation of disease. Much of what had been said as applicable to hay fever was also applicable to hay asthma. Could this disease, so difficult to treat successfully, so varied in its manifestations, of such different origin, be cured by the removal of a nasal obstruction? The speaker thought decidedly that it could not. Peripheral irritation in the nose was, without much doubt, a predisposing cause of asthma in a certain proportion of cases, but only in a very moderate percentage should it be regarded as a direct and efficient cause of this disease. Asthma, as was well known, might be occasioned by any number of conditions which were of the nature of peripheral irritations. A disordered stomach, a loaded rectum, a painful ovary, or a decayed tooth might precipitate the attack. In like manner an irritated or obstructed nose might produce this effect. Asthma had frequently been temporarily improved by intranasal operations; but the cure was never permanent, the attacks invariably returning sooner or later. The speaker quoted from a paper read by himself before the Academy of Medicine in 1886, in which he had said: "There were, without doubt, a great number and variety of affections, mainly neuroses, under the direct influence of morbid intranasal conditions; still, at the present time we should be careful not to exaggerate their importance, and when and wherever we find a neurosis of the respiratory organs, immediately reach the conclusion that the nose occasions it. . . . The nose is naturally a sensitive organ, and many times I have produced epiphora, cough, spasmodic closure of the glottis, moderate in amount, and slight dyspnœa by the mere passage of instruments or simple nasal examinations, when the result of my further investigation was to show that no nasal trouble of importance existed. . . ." The speaker expressed himself entirely in accord with Loblinski, who had said: "If there is really a nasal affection, it should be treated according to its character, and not on any far-fetched theory of its ætiological importance." It was with reluctance that the speaker separated himself from any such radical position as that upheld by Dr. Bosworth, who had said that he had seen no case in which intranasal disease was not found as a predisposing cause of asthma.

The speaker then went on to say that not infrequently ocular symptoms and disease originated from hypersensitiveness of certain intranasal areas, and that the recurring nocturnal cough of children, when no pulmonary complications existed, was often due to congestion of the posterior portions of the lower turbinated bones. Palpitation of the heart might become a prominent symptom of hypertrophy of these parts. Hack and Tornwaldt had both maintained that they had in frequent instances cured obstinate cephalalgia by treatment of the naso-pharyngeal disease. Irritation of the large lingual papillæ or lymphoid tissue at the base of the tongue, when present in excess, occasioned obstinate dry cough, dysphonia, and a sensation of stricture around the neck. These different conditions could be relieved or cured by suitable treatment, sometimes purely medical, and again with surgical aid especially directed to the parts involved. The speaker closed his remarks by saying that peripheral irritation in the nose and throat should be looked for when it seemed proper to do so as a source of disease elsewhere, and, when discovered, that it should be treated rationally, judiciously, and effectively, keeping the general economy in good working order, with some special attention to each organ in a suitable degree. By following out this rule there would be much less for the rhinologists to do and for other exclusive specialists, and the majority of people would enjoy more peace of mind and health of body.

Dr. C. C. Rice thought that Dr. Bosworth was the man who should reply to Dr. Robinson's paper. Those who had listened to discussions on this subject knew that these two gentlemen represented extreme views on the subject, and that the further one was willing to place himself on record, just so far in an opposite direction the other was prepared to go. In the matter of hay fever and asthma there existed various ætiological factors. Those who formulated opinions upon the subject, so diametrically opposed, did so by using different bases for argument. A patient with either of these troubles and some nasal obstruction or irritation would be likely to go to the rhinologist, who would put the nostrils in good order and thereby greatly benefit or perhaps cure the asthma or hay fever. Then the rhinologist was too apt to conclude that these affections were always of nasal origin. The purely neurotic cases might never go near the nose specialist. There were a number of symptoms apparently reflex, such as lacrymation, vertigo, and so forth, which seemed to respond favorably to operative interference on the nose, making the nostrils pervious to air. The speaker believed, however, that the destruction of nasal tissue produced such a shock for the time that all of these small reflexes disappeared. No conclusions should be arrived at as to curative effects until after months of observation.

Peripheral Irritation in Relation to Reflex Neuroses.—Dr. M. Allen Starr read a paper with this title. After describing the anatomy and physiology of the nervous system, he said that in the entire vertebrate species it was possible to assign to the distinct masses of gray matter different functions: to the spinal and medullary centers reflex action, to the basal ganglia automatic action, and to the cortex conscious and voluntary action. In dealing with the question of reflex disturbances, it should be borne in mind that the discussion was not limited to affections of the spinal cord and medullary centers, as each lower septum was under constant control from the one above it, so that the spinal, reflex activity being the lowest, was dominated both by the basal, automatic activity, and by the cortical, voluntary activity. Prompt motor response to a sensory stimulus was the action which should normally take place when the reflex centers were called into play. Without such reflex action the balance of supply and demand in the human economy would be impossible. The power of quick and appropriate response to normal or abnormal irritation was a natural power of the lowest masses of gray matter. That it might be interfered with in several ways was a well known fact. Strychnine and its coefficient drugs increased reflex activity, and it might be entirely suspended by sudden and violent irritation. It might also be impaired by an excess of moderate irritations coming simultaneously. In seeking for illustrations of either increased or decreased reflex excitability from spinal disease, it was evident that we must allude to very serious diseases. The reflex mechanism was too important and stable to be affected by slight causes, for, if this was not true, the numerous and inevitable stimuli consequent upon an active life would constantly put that life in danger. Other causes of disturbance of reflex function, were those of defective control in the higher centers. Arrest of reflex activity was rare; it might be produced by cerebral hæmorrhage, and it could be produced voluntarily. Increase of reflex activity from central causes was common. The act of control must be constantly exerted in order to preserve the balance of power and the proper harmony of action in the nervous system. A slight defect in central control produced widespread and serious results. A small clot in the brain would set all the motor, vaso-motor, and sympathetic centers in such a state of instability as to impair all confidence in their action. Emptying of the bladder as soon as it was full was a perfectly normal, satisfactory act on the part of the lumbar spinal cord, and active incontinence of urine was not a sign that it was diseased. It was a sign that impulses calculated to restrain the act were prevented from reaching that normal reflex center. If these physiological facts were accepted, the conclusion must be that in those diseases known as reflex neuroses, in which there was no real defect in reflex action, but only an undue or inharmonious reflex activity, the actual origin of the disease must be either in an excess of activity in the lower centers or a defect of control in the higher centers. In the various reflex neuroses in which peripheral irritation was the supposed cause of disease, Dr. Starr was of opinion that if there was any actual lesion producing the trouble, Nature would indicate it by attracting attention to the seat of irritation by discomfort or by pain; and that when, as in very many cases, the source of the irritation was by no means evident and was only found by extraordinary effort, the probability was largely in favor of the assumption that the reflex neurosis was not produced by any direct peripheral irritation, but was the manifestation of a slight or serious defect of control by higher centers due to their impaired nutrition and consequent impaired activity. He was confident that a large majority of the patients who presented symptoms of reflex neuroses had been exposed to influences which undermined the strength and nutrition of the entire nervous system, and had serious symptoms, not only of a so-called reflex character, but of defective central control. These were to be regarded as suffering from functional or organic disease of the highest, most complex, and most highly developed portion of the nervous system, and were not merely the victims of peripheral irritation. The symptom in the so-called condition of spinal concussion was now explained, and being accepted upon the theory of mental shock rather than spinal irritation. The phenomena of hypnotic suggestion had proved conclusively that many of the so-called spinal neuroses were really due to defective cerebral control. Mental shock and mental worry might produce such an unstable state of the highest centers that their inhibitory action was removed, allowing lower centers to manifest unusual activity. In such cases, then, the actual manifestations might perhaps be in a lower center, but the actual seat of disease was not necessarily there. It was in the higher center, which controlled the lower. Examples were then given of cases of so-called uterine reflex neuroses and reflex troubles from eye-strain. It was a mistake to call this class of cases reflex neuroses, the condition brought about by general nervous exhaustion, due to a peripheral pain. In any case of so-called reflex neurosis it was not well to be satisfied with merely removing supposed peripheral irritation, but to look after the nutrition of the entire system; tone it up, so as to enable it to exert all its powers of control, and the peripheral effects would disappear of their own accord.

The further discussion of the question of peripheral irritation in its relation to manifestations of disease was then postponed. It will be resumed at the first meeting in May, when general practitioners will take part.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of March 10, 1890.

Dr. Robert Abbe in the Chair.

Kelotomy, Excision of Intestine, and Lateral Anastomosis.—Dr. T. H. Manley reported the case of a young man of twenty-five years of age, who had been sent to the hospital with strangulated hernia, after previous persistent attempts at reduction. The patient's condition being deemed critical, it was decided to perform kelotomy. On cutting down, the intestine involved was found on examination to have undergone such changes as to preclude the advisability of returning the gut. The affected portion was removed and continuity established by lateral anastomosis, Abbe's catgut rings being used to effect this. The patient had died, but the specimen of anastomosed intestine produced had been subjected to test, and it was demonstrated as free from leakage.

Ununited Fracture of the Femur successfully treated with a Long Hip Splint.—Dr. W. R. Townsend presented a boy, nine years of age, who had been referred to him last fall with an ununited fracture of the right femur. On August 5th last, the boy had fallen from a hay-loft to the ground, a distance of about fifteen feet, sustaining a simple fracture of the right femur. He was treated by Buck's extension, which method was faithfully tried for eight weeks. He was then put on crutches, as it was supposed there was some union. He was admitted to the Hospital for the Ruptured and Crippled on October 12th, when the following notes were made: "Boy in poor general condition, pale and anæmic. At about the middle third of the thigh there is a small amount of callus. Leg is held nearly parallel with its fellow, foot everted. There is a trifle over half an inch shortening, false point of motion, and a bowing out of thigh as though the two fragments were opposed to each other at a slight angle, apex pointing outward; very slight motion causes the boy pain, and he is unable to bear any weight on the leg. Urine normal. A long side-splint with coaptation splint about the femur, and weight and pulley has been applied, pending the manufacture of a hip-splint. October 23d: To-day hip-splint applied, a two-inch high shoe being placed on the sound foot. Wooden coaptation splints on the inner side of thigh from upper part of calf to the leg, extension being made on thigh by means of adhesive plasters, which fasten to buckles in the splint. The boy is at once gotten out of bed, and soon learns to walk about by pushing a chair in front of him. December 11th: Union perfect; straight splints left off, but boy to continue wearing the brace. January 18th: Brace and adhesive plasters removed, and a caliper brace applied instead. January 27th: Discharged from hospital. The leg is perfectly straight; there is about a quarter of an inch shortening; boy walks well; knee-joint movements about two thirds normal and increasing daily. A firm callus can be felt about seven inches from the anterior superior spine, right femur."

The advantages of treatment in this case by this method were undoubtedly due to the fact that getting the boy out of bed and allowing him to walk around at once improved his general condition and enabled the necessary callus to be thrown out. This method of treatment would seem particularly appropriate to such cases, as the children were thereby able to walk about, get the fresh air, and keep the general system in the best possible condition.

Immediate Blindness of One Eye a Symptom of Certain Fractures of the Base of the Skull.—Dr. Carl Koller read a paper on this subject. (See page 406.)

The Chairman said the paper would go on record as one of great interest, dealing as it did with a hitherto little-noticed form of fracture.

Conical Protrusion of Bone in Stumps resulting from Epiphyseal Growth.—Dr. C. A. Powers read a paper on this subject, first presenting a number of patients who, after undergoing amputation through the upper arm, had developed conical stumps. He then reviewed the literature dealing with the question and quoted many of the opinions of contemporary observers, especially those by French surgeons of note. He suggested that if secondary amputations were found to be contingent on these amputations in children, it was a point which the surgeon would do well to bear in mind from a medico-legal standpoint.

The conclusions drawn by the speaker were that: 1. Amputations through the arm or leg in children might be followed by a conical stump, and that result might be regarded as a probability. 2. That this conical condition might be physiological and independent of inflammation or retraction in the soft parts, or of osteophytic deposit at the end of the bone. 3. That the younger the child and the nearer the seats of the amputation to the upper epiphysis of the limb, the greater the probability of early conicity, and that these factors should receive consideration when prognosis was being given. 4. That flaps of excessive length might not prevent the development of the condition. 5. That when the conical condition was present the only available treatment consisted in the resection of a sufficient portion of bone. 6. That successive reamputations might be required. 7. That these considerations applied, but with much less force, to amputations through the forearm or thigh.

Dr. L. A. Stimson thought the theories which had come to be generally accepted in reference to these conical stumps were founded more upon the repetition of an idea and *a priori* considerations than upon clinical facts. The theory of disproportionate growth between the bone and the soft parts was one which could only be accepted after other observed exceptions had been rejected. Bone might grow at its cut end by virtue of a traumatism, or the action of such periosteum as might have been left. There was more likely to be an overgrowth at the end of a stump than any disproportion in the physiological processes. These cases had all undergone reamputation, and the cut ends of the bones could be felt. The growth did not project downward with the axis of the bone, but presented as an evident product from the periosteum. If the growth had been from above downward, there would be a square-cut end, and not a conical one. This might be well demonstrated in the last case shown. Such spikes of bone were common enough. There was a serious objection to making the theory of a possible disproportionate development the basis of operative guidance. There were many unfortunates who might thereby suffer amputation at a higher point in order to protect them against what might take place. He thought that the possibility of a local growth at the end of a stump must be disposed of before the theory of physiological overgrowth from the epiphyseal junction could be accepted.

Dr. J. A. Wyeth presented as an illustrative case a boy of twelve years of age, whose arm he had amputated three years ago at the junction of the upper with the middle third of the humerus. Two years after that the boy had come back with a marked conical stump. The speaker had removed an inch more of the bone, and now it would be seen that the same conicity was repeated. He indorsed the opinion expressed by the last speaker, and would suggest in addition that it should be remembered that the nutrient artery of the humerus, which entered at about its middle, was destroyed by these amputations, and this fact might be used as an additional argument against any special lengthening from the epiphysis. He did not think that the presence of the periosteum was necessary in these cases to the production of local bony growths, as such might develop from the bone cells around the Haversian canals.

Dr. W. T. Bull said the subject had engaged his attention a number of years ago. Children whose arms he had amputated began coming back with these conical stumps. Had he not been responsible for the primary operation he might have insisted that the condition had arisen from insufficient flaps, or some other failure in operative technique favoring the development of conical stump. He was inclined, as the result of investigation, to attribute these conical stumps to growth of bone and not to any periosteal production. The rounding of bone stumps after amputation was familiar enough, but these did not usually project. But in a certain number of limbs it had been found that these rounded stumps projected through the integument. He had seen a case. If this projecting bone was formed from periosteum, such projection would be far less likely to occur. The periosteum would develop, and would be likely to stretch and accommodate itself to the growing bone. He should expect to find, now and then, that the periosteum produced fragments not attached to the end of the stump.

Dr. B. F. Curtis thought that the shape of the ends of the bones indicated that there had been local growth. If the rounding off had taken place in a manner similar to that process in adults, the stump would not present these characteristic osteophytic growths. He thought also that he had noticed in some of the cases that the scapulæ on the amputated sides were smaller. It was surprising that there should be physiological growth in one part of the upper extremity and failure in another.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of March 21, 1890.

Dr. V. P. Gibney in the Chair.

A Case for Diagnosis was presented by Dr. John Ridlon. The Chairman considered it a case of cervical rotary scoliosis, with a cyst over the scapula. He had seen one or two cases of cystic tumor in this region, and the diagnosis of scoliosis was made by the position of the right shoulder, by the drawing of the head to that side, and, on the patient's bending forward, by a deviation of the spine to the right.

Dr. Samuel Ketch agreed in the diagnosis of rotary lateral curvature, which he thought was congenital.

Dr. L. Putzel found some enlargement of the spine of the scapula, and muscular spasm of all the muscles inserted into the inner border of the scapula.

Dr. A. B. Judson thought there was evident scoliosis.

Dr. W. R. Birdsall was of the opinion that most of the deformity was the result of muscular spasm. An electrical examination ought to settle the question.

Dr. A. M. Phelps said that in a growing child such a condition of scoliosis was often secondary to muscular spasm.

Dr. Ridlon said that he had been unable to obtain any history that would account for an irritative lesion at birth; and he had only just learned that the child had been etherized by Dr. Gerster two days before, and that the swelling had entirely disappeared.

A Case of Double Congenital Malformation at the Knee, with Superextension and Talipes, was presented by Dr. T. Halsted Myers. The patient was born at term, after an easy labor by a breech presentation. The feet had been closely applied to the head, and the quantity of liquor amnii had been normal. The marked flexion of the thighs had been gradually overcome at the end of eight months; but at the age of sixteen months the thighs could not be extended beyond the straight position; both legs were superextended to one hundred and forty degrees; there was equino-varus, marked on the left side and moderate on the right. Neither patella could be felt. The intercondylar grooves were shallow; the tibiæ glided forward into partial dislocation, and there was marked genu valgum, with abnormal lateral mobility at the knee. The body was otherwise normal; and there were no evidences of cerebral defect. The muscles responded well to the faradaic current, but in a lesser degree on the right side. The flexors of the thigh were in constant active contraction, and the condition of the posterior leg muscles seemed to be one of structural change. The deformity had been considerably reduced in two weeks by means of a brace, which maintained flexion at the knee.

Dr. Myers presented brief notes of several cases which had been already reported by some of the members of the Section. The absence of cerebral symptoms in these cases pointed to the spinal cord as the seat of the lesion. The muscular spasm seemed to disappear about the third year, or even earlier; and the prognosis, as regarded the usefulness of the limbs, was very good. There was nothing in these histories, however, to show that the fœtus had maintained the position found at birth. This position approximated the insertions of the anterior thigh group and the posterior leg group, which might very easily account for the structural changes in the muscles and the consequent shortening and deformity. And it was not surprising that the patella, which was practically a part of the quadriceps tendon, should share in this mal-development; but the character of the labor itself ought to have but little influence, as the cartilage of the patella appeared in the third month of fœtal life.

Dr. R. H. Sayre related the history of a similar case, and exhibited photographs showing the condition immediately after birth, and again six months later. The labor and the quantity of liquor amnii had been normal, and no cause could be assigned for the condition. At the present time the leg could be flexed on the thigh to about forty-five degrees, and extension was possible only to a straight line. The shortening was three quarters of an inch. No patella had yet been found.

Dr. Ketch said that in a collection of fifty-six cases of congenital dislocation, reported by Dr. Hubbard and himself, there was only one congenital dislocation of the knee, and this was unilateral. The literature of the subject was still very meager, Noble Smith being the only author he had found who spoke of the condition at length. The treatment which that author advocated had yielded uniformly good results.

A Case of Pott's Paraplegia treated by Suspension after the Method suggested by Motchoukowski.—Dr. Le Roy W. Hubbard, by invitation, presented the report of one of those intractable cases that had resisted ordinary methods of treatment. Dr. Ketch and Dr. Hubbard employed daily suspension for a few minutes, and a decided daily improvement was noticed within a month, but a complete cure had not been established up to the time of the report.

Dr. Putzel said that his pathological studies had led him to believe that the majority of cases of Pott's paraplegia were not due to pressure, but to a transverse myelitis; and his experience with the treatment by suspension had taught him to consider it a method which was, at best, of only temporary relief. Very rapid improvement often followed many methods of treatment. Large doses of iodide of potassium had not yielded him very satisfactory results. It was important to remember that the disease showed a strong tendency to spontaneous recovery.

Dr. Birdsall thought that where Pott's paraplegia was due to myelitis the disease was fatal; but many cases were due, not to a myelitis, but to irritation of and pressure on the anterior or posterior roots of the nerves in their passage through the foramina. Among the various theories which had been advanced concerning the action of suspension, he thought that the most plausible one attributed the beneficial action to a slight separation of the vertebræ, with consequent improvement in the circulation of the affected parts, particularly the nerve roots. This was what might be expected from our knowledge of nerve-stretching; and on this account he thought the method somewhat dangerous. For many months after Charcot called attention to the method, the literature of the subject was very extensive; but more recently it had become quite scanty. It was particularly strange that these early investigators had not furnished any later reports.

Dr. L. C. Gray said that, excluding those cases which were complicated by organic lesion of the cord, he thought that the ætiology of Pott's paraplegia could be explained by reflex causes. Nerve-stretching in this disease was a very different thing from what it was in locomotor ataxia. The latter disease had a very complicated pathology, and embraced several distinct varieties. It was a very significant fact that the results alleged by Charcot had not been obtained by other observers. He did not think that the treatment by suspension, when properly managed, was dangerous; and, where the paraplegia was of reflex origin, he would look for temporary relief, and in milder cases even a cure was not impossible.

Dr. W. R. Townsend reported two cases which he had treated by extension in bed, according to the method described by W. J. Fleming in the Lancet for 1889. He had modified the arrangement for extension by using a jacket around the pelvis, with straps passing down on each side. Both patients had received large doses of iodide of potassium in addition, and both showed the improvement noted in Dr. Hubbard's case.

Dr. Ridlon said that he had made use of large doses of iodide of potassium, the actual cautery, and horizontal traction in bed, but he had been unable to see any favorable modification of the disease by any of these methods. He now kept his patients on their backs, and waited for them to get well. One had recovered perfectly after three years.

Dr. Ketch said that he had suggested the use of suspension in the case reported by Dr. Hubbard after the paralysis had lasted for about three years and had not been improved by recumbency or the use of iodide of potassium.

Dr. R. H. Sayre said that the treatment of Pott's paraplegia by suspension had been practiced as long ago as 1828 by J. K. Mitchell, of Philadelphia. Suspension failed to give relief when carried to excess, and it was dangerous if injudiciously applied. These patients should not be left untreated, for their chances of becoming permanently paralyzed were thereby increased. Constant traction by means of the "jury mast" and traction with recumbency were both very useful methods. By making use of extension with the patient in the "wire cuirass," his father had been able to employ traction with recumbency without depriving the patient of the benefits of fresh air.

Dr. Phelps considered that the employment of suspension at a period when the disease was still active was bad practice; and the great majority of patients recovered if the spinal column was only fixed.

Dr. Hubbard did not think that pressure on the nerve roots could be of common occurrence, for sensory symptoms rarely appeared, and then only in the later stages.

A Criticism of Willett's Operation for Talipes Calcaneus was the title of a paper read by Dr. A. B. Judson. He stated that in this affection the deformity was of lesser importance than the disability, which prevented the patient from resting on the toe in walking—a disability which Mr. Willett sought to remove by shortening the tendo Achillis. The writer demonstrated that the tension on the heel-cord greatly exceeded the weight of the body, and expressed the opinion that the tendon, shortened by operation, would not long endure the strain without yielding. He advocated the mechanical treatment of this disability, and presented a brace which was easy to apply, convenient to wear, and inexpensive.

Dr. W. E. Wirt, by invitation, gave a mathematical demonstration showing that Dr. Judson, in his calculations, had made no allowance for the action of the other muscles, and that, when these were considered, it was found that the tension sustained by the tendo Achillis was at no time more than 1·4 times the weight of the body.

The Rational Treatment of Flat-foot.—Dr. Royal Whitman, by invitation, read a paper on this subject, and showed some plaster casts of cases he had treated.

Dr. Willy Meyer presented two cases of flat-foot which he had treated by supramalleolar osteotomy, and showed photographs and casts illustrating the condition of the patients before and after the operation. He considered the method a most rational one, for it required the patient to step upon the outer border of the foot, so that the weight of the body was transmitted through the cuboid, instead of through the scaphoid bone. Dr. Whitman's results were excellent, but they had been obtained in comparatively young subjects after six months of treatment. The method which he advocated would secure permanently good results in as many weeks.

Dr. R. H. Sayre remarked that Mr. Golding Bird, who had been the first to do these operations, found less frequent occasion than formerly to resort to this method, as he was able by non-operative measures to relieve pain and, in great measure, to remove the disability.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN OBSTETRICS.

Meeting of January 31, 1890.

The President, Dr. S. R. Mason, in the Chair.

Exhibitions.—Dr. Macan exhibited a uterus from a case of vaginal extirpation for carcinoma of the uterus. On examination, he found the cervix taken up and dilated, and the left side of it quite thinned round a tumor. After he went to Sir Patrick Dun's Hospital he asked the patient to come there, and found that she had been bleeding very frequently, although the cervix was quite closed. The tumor had disappeared, and she was anæmic. The uterus was fixed. On the 28th of December he removed the uterus by the ordinary process of extirpation *per vaginam.* The mode of operation involved a separation of the bladder in front from the cervix, by which nothing was left but the broad ligament to cross the vessels on each side. These could be tied with a strong curved aneurysm needle. By pressing the bladder upward and drawing the uterus down the needle was made to go in between the bladder and the portion of the broad ligament required to be tied. By this method the danger of tying the ureter was overcome. The woman's temperature and pulse were normal on the afternoon of the operation; but, to his horror, next morning she showed symptoms of sepsis, and afterward peritonitis came on, and she died about a week after the operation. He now believed that the cause of the sepsis was his having made a *per-rectum* examination immediately before he operated. He disinfected his hands, but he was. nevertheless, quite convinced, from having read Leopold's cases, that the *per-rectum* examination led to the peritonitis.

Dr. W. J. Smyly exhibited an ovarian tumor which he had removed three weeks previously from a woman in the Rotunda Hospital.

Dr. Macan exhibited a dermoid cyst which he had removed from a woman five months and a half pregnant; he had told the woman that she had an ovarian tumor and was pregnant as well. She had not previously menstruated for six weeks. The last flow had lasted for only two or three hours and was very profuse. On making a vaginal examination, he found that the tumor was in the pelvis. From all the other circumstances of the case he came to the conclusion that it was a dermoid cyst. On last Wednesday morning, under ether, an incision was made in the mesial line. He recognized the tumor in the left iliac region, and aspirated, after which he was able to raise it out of the abdomen. It was now not so large as it had been, and, as would be seen, consisted of stuff like tow. After the operation the woman's temperature and pulse were normal; the next day her pulse was 60. The woman, he believed, was practically convalescent now.

Dr. Byrne asked if it would not have been better to defer the operation until after the pregnancy was over.

Dr. Macan said that whenever he encountered complications his practice was to refer to the writings of those who had seen the complications and shape his practice according to them. And what was laid down was that in cases of this description it was best to operate as soon as possible after their discovery. The mortality in cases of pregnant women operated on for this tumor was less than in the case of women in a non-pregnant condition who underwent operations for it. Also the pressure on a dermoid cyst was known to be likely to cause inflammation.

A Case of Successful Cæsarean Section.—Dr. Macan brought forward a case of successful Cæsarean section, which was, as far as he could learn, the only successful one ever performed in Ireland. The patient was sent up to the Rotunda Hospital in July, 1889, by Dr. Kearney, of Dundalk. She was a dwarf, three feet seven inches and a half in height, the measurement of the pelvis being: Sp. Il. = 23 cm.; Cr. Il. = 23·3 cm.; D. C. = 6·25 cm.; C. V. estimated at 4·5 cm. The operation was performed on August 5, 1889, at 10.30 A. M., the cervix being quite taken up, and the os admitting one finger. The placenta was adherent to the anterior uterine wall, and was divided by the uterine incision; the hæmorrhage was controlled by an elastic ligature round the cervix. The child was slightly asphyxiated when extracted, but soon cried out lustily. The uterine walls were brought together by seventeen interrupted silk sutures passed through the whole thickness of the uterine wall, and no separate ligature was used to bring the peritoneal edges of the wound together. The method of suture was in every respect similar to that used for closing the wound in the abdominal walls, but the distance between the sutures was less. There was considerable post-partum hæmorrhage, but the patient made an uninterrupted recovery. More than five weeks after the operation the temperature rose to 102° F., which was much higher than it had been after the operation, and that proved to be due to a return of menstruation. Since the patient returned home two sutures had been expelled *per vaginam*.

Dr. Smyly said the Cæsarean section differed from other capital operations in this respect, that it was not so much an operation of the specialist as of the general practitioner. Therefore, if the lives of mothers and children were to be saved, the general practitioner should be as prepared to do Cæsarean section as to put on a forceps. Statistics at present showed much more favorable results for the rehabilitated Cæsarean section, when done by properly qualified operators, than for Porro's operation. Taken as a whole, the mortality in the operation was still thirty or forty per cent. Porro's operation was much simpler, and, he thought, was quite within the powers of an ordinary operator. One reason, however, why the statistics of the two operations, when compared, were likely to lead to erroneous results was that in all the bad cases Porro's operation had to be done, while Cæsarean section was only adapted to the easier and better cases. He thought Lawson Tait's plan in Porro's operation, of having an assistant to manage the elastic ligature, was an improved practice which might be employed with advantage in the Cæsarean section.

Dr. Dill mentioned a case where a midwife performed the operation; also his predecessor had had an unsuccessful case.

Dr. Molony said he believed the operation had been performed by Dr. George O'Farrell in Boyle. The patient lived thirty-six hours.

Dr. Macan, replying, said antisepsis was harder to secure in the Cæsarean than in Porro's operation. For the general practitioner Porro's, he thought, was the easier of the two. All the instruments required for it were the elastic ligature, two pins and a knife, and a needle and thread. The conditions under which it became safer for a woman to be delivered by Cæsarean section than by perforation raised an important question. On the Continent they were going a little too far, for a great many of them had done away with the idea of perforation. But, in the middle of labor, to turn over to the Cæsarean section must always be dangerous.

Reports on the Progress of Medicine.

ANATOMY.

By MATTHIAS L. FOSTER, M. D.

Obturator Hernia.—Cases of obturator hernia are so rare that we are led to reproduce the following description by W. Scott Lang, in the Edinburgh Medical Journal for December, 1889, of a case which he had the good fortune to dissect:

The body was that of an old woman, much emaciated. On opening the abdominal cavity, the mouth of the sac was at once seen on the left side at a point corresponding to the upper border of the obturator foramen. The descent of the sac had taken place on the inner side of the round ligament of the ovary, and internal also to the obliterated hypogastric and deep epigastric arteries. The peritoneal pouch was empty and its size was such as to admit the little finger to the extent of an inch. Around the neck of the sac the structures felt very unyielding in every direction. Movements at the hip joint had no appreciable effect on the neck of the sac, except that forcible rotation of the thigh inward made the neck rather tighter by acting on the obturator externus muscle and its origin from the obturator membrane, thus rendering the latter tense. The orifice of the sac could be reached without difficulty by the forefinger in the vagina. The superficial division of the obturator nerve lay in close relation to the sac anteriorly; the deep division was on the postero-external aspect. The obturator artery was found descending from the deep epigastric on to the neck of the sac and winding round its inner side in very close relation with it. The obturator vein also lay on the inner side. The position of the sac was an inch and a quarter internal to the femoral vein—internal, therefore, to the position of an ordinary femoral hernia.

The extraperitoneal structures were very delicate, but the sac had a covering derived from the fascia of the obturator externus muscle. The sac lay under the pectinæus muscle, and seemed to protrude through a gap in the much emaciated obturator externus. A few fibers of the obturator externus arose from the upper margin of the obturator foramen superior to the neck of the sac.

Most of the facts elicited in this case confirm, except in one important point, what is written in the text-books regarding obturator hernia. During life one of the prominent symptoms is pain shooting down the inner side of the thigh. This pain is said to be aggravated by rotation of the thigh outward, and it is doubtless thus aggravated by rendering tense the fascia lata and compressing the sac; but this same rotation outward favors reduction of the hernia by relaxing the obturator externus muscle and the parts around the neck of the sac. Rotation inward, though relieving the pain and the pressure on the fundus of the sac, must inevitably constrict the neck of the sac by rendering tense the obturator externus muscle and obturator membrane. Attention to this point might prove valuable in attempting the reduction of such herniæ by taxis.

Congenital Absence of the Rectum.—Boyd (*ibid.*) records another case of congenital absence of the rectum in which there was a communication between the intestine and the bladder. No depression could be felt at the point where the anus is usually situated. Inguinal colotomy was performed, after an unsuccessful search for the rectum through the perinæum, but the child died ten days later. On autopsy, the bowel at the termination of the sigmoid flexure was found firmly adherent to the lower part of the posterior wall of the bladder. At the point of adhesion was a slight constriction, and above this a somewhat cæcum-like dilatation. A catheter could easily be passed into the bladder, demonstrating the opening of the colon into the base of the bladder.

Mr. Boyd finds only three cases similar to this on record—one by Desault, one by Amussat, and one by Godard.

Nerve Corpuscles in Man.—Adamkiewicz (Fortschritte der Medicin, Nov. 15, 1889), after recent investigations, states that the nerve corpuscles are cellular organs belonging to the terminal nerve fibers, and are shown to be complete, independent bodies by their isolated appearance along the nerve, by their spindle form, and by their characteristic reaction with safranin. They are found only in mankind, perhaps after the age of puberty, without any marked change in number in adult life.

If the nerve corpuscles are traced in double rows, the terminal nerve fibers are found to be coarse and of the largest size, so their appearance is not dependent alone on the caliber of the nerve.

The nerve corpuscles are not confined exclusively to the motor nerves, neither are they completely wanting to all sensory nerves; but while they are constantly present in the motor nerves and there present their greatest number and size, in the sensory nerves they are either wanting or are, when present, small and few in number.

The characteristic mark of terminal motor nerves in the adult is not only the large size of the nerve fibers, but also the constant appearance of large and numerous nerve corpuscles.

Cranio-cerebral Topography.—Anderson and Makins (Jour. of Anat. and Phys., April, 1889) furnish the following data for the external localization of the more important cerebral areas: They furnish three guiding lines—the sagittal, frontal, and squamosal. The sagittal extends from the glabella, a point midway between the highest points of the supra-orbital arches, to the external occipital protuberance. The anterior end of this line they call the glabellar point, the posterior the inion, the center the midsagittal point. The frontal runs from the midsagittal point to the depression immediately in front of the tragus at the level of the upper border of the meatus. The lower end of this line is called the pre-auricular point. The squamosal runs from the most prominent point of the external angular process, at the level of the superior border of the orbit, to the junction of the middle and lower thirds of the frontal line, and is prolonged an inch and a half beyond this. The anterior end of this line is called the angular point, the posterior the parietal point, and the point where it cuts the frontal is known as the squamous point.

The upper end of the fissure of Rolando is situated three eighths of an inch behind the midsagittal point, the lower end in the squamosal line three eighths of an inch in front of the squamous point. The course of the curve of the fissure between these points often presents a strong backward convexity in the upper third and a slighter forward convexity near the lower end. The fissure of Sylvius commences in the squamosal line an inch and an eighth to an inch and a half posterior to the external angular process, five twelfths of the distance from that point to the frontal line. The bifurcation of the fissure of Sylvius is in the same line an inch and a half to two inches posterior to the external angular process, or seven twelfths of the distance from that point to the frontal line. The horizontal limb of the fissure extends along the squamosal line, crosses the frontal line, and reaches an equal distance behind and in front of that line; posteriorly it then runs upward for about half an inch parallel to the frontal line. The external parieto-occipital fissure joins the sagittal line at a point seven twelfths of the distance from the midsagittal point to the inion. Marked variations are found in all of these relations.

The Levator Ani.—Dickinson (Am. Jour. of Obs., September, 1889), by introducing cylinders of wax into the vagina and having the patient contract the muscle by straining, obtained impressions of the levator ani, from which he arrives at the following conclusions:

The distance from the vaginal orifice to the inner edge of the levator ani averages less than half an inch. The double band of the muscle is always sharply defined. The more the levator is stretched, the closer the strong edges of the horizontal belly are brought together. The contraction of the muscle crowds the penis against the cervix during coition; the outlet of the vagina remains quiet while the upper portion rises fifteen or twenty degrees toward the brim of the pelvis. A dynamometric test of the strength of the muscle gave an average of ten pounds, occasionally as high as twenty-seven. It is especially strong in muscular and erotic women, in those with wide pelves, and in those suffering from painful lesions about the vulva and vagina.

An Abnormity of the Naso-pharynx.—Major (Montreal Med. Jour., December, 1889) reports three cases in which he has found a well-developed septum dividing the naso-pharynx in an antero-posterior direction, continuous with the vomer. Very few similar cases have been noted. The presence of this septum appears to impede the nasal respiration.

The Minute Anatomy of the Placenta in Extra-uterine Gestation.—This is the title of a paper by Dr. Hart in the Edinburgh Medical Journal for October, 1889, but the author limits himself to a consideration of the development of the placenta in the extraperitoneal form of extra-uterine gestation.

In the vast majority of cases the Falloppian tube is the starting point of the gestation, and the result is usually rupture through some part of the tube covered with peritonæum, but sometimes further development may take place between the layers of the broad ligament which become separated to accommodate the fœtus and placenta. If the fœtus lies above the placenta, the downward displacement of the placenta is soon limited by the pelvic muscles, while the fœtus may rupture the peritonæum and so produce a mixed form of gestation, the fœtus being intraperitoneal and the placenta extraperitoneal. But if in an early tubal gestation the fœtus lies the lower in the tube and the placenta occupies the part of the tube covered by peritonæum, both may remain extraperitoneal, the peritonæum being lifted as the fœtus grows until the placenta may lie attached to the anterior abdominal wall opposite the level of the lumbar vertebræ.

In conducting his investigations he had these four specimens for observation:

1. A Falloppian tube with placenta attached, from a ruptured tubal gestation at the second month.
2. A broad ligament gestation sac at the fourth month.
3. An abdominal gestation sac entirely extraperitoneal and at nearly full term.
4. An abdominal gestation sac with the fœtus probably intraperitoneal and the placenta certainly extraperitoneal.

In the Falloppian-tube gestation the villi lie imbedded in decidual cells and no intervillous sinus system seems to exist. Large sinuses are formed in the muscular wall. The villi are well formed and covered with perfect epithelium. The decidual cells are large and have large nuclei and nucleoli. In the broad-ligament placenta the villi are less perfect in contour, blood extravasation is present, and blood crystals are in abundance, while the decidual cells are few and less perfect. In advanced abdominal gestation where the placenta is in the pelvic connective tissue the villi are fairly perfect and there are decidual cells and blood crystals with large areas of extravasated blood which may be the remains of an attempt at a placental sinus system. Where the placenta is extremely displaced it is converted into a mass of organizing blood-clot with large areas of blood crystals, great compression and distortion of the villi, entire absence of decidual cells, and no recognizable sinus system, although some such system may exist. The development, then, of the placenta in the extraperitoneal form of extra-uterine gestation is a destructive one and it is practically reduced to compressed villi. The least damage is done to it when it is placed below the fœtus in the tube, and in this case it may be possible to remove the child at full term.

Imperforate Ileum.—Mr. Sutton (Am. Jour. of the Med. Sci., November, 1889) reports a case in which he made a diagnosis of imperforate ileum, and, on exploration, found the ileum imperforate at a spot eighteen inches from the ileo-cæcal valve. The distal portion was shrunken and separated from the proximal by a gap an inch across. Two other cases have been found by the author during dissections on still-born children. This condition he attributes to excessive coalescence of the intra-abdominal section of the vitello-intestinal duct in the fœtus. His grounds for this are that congenital obstruction and narrowing of the alimentary canal are always found in the situation of embryological ducts—as, for example, in imperforate pharynx, imperforate duodenum, and imperforate rectum and anus—and that imperforate ileum occurs in the region where the primitive alimentary canal is in communication with the yolk sac by means of the vitelline duct. Normally, the obliteration of the duct is arrested at the point where it joins the ileum, but very frequently the duct persists to a certain extent, forming Meckel's diverticulum, which may vary from a nipple-shaped prominence on the free border of the ileum to an open tube leading from the ileum and opening externally at the umbilicus. On the other hand, the coalescence of the duct may be excessive, causing a narrowing of the ileum from a shallow furrow running around the gut to absolute destruction of its lumen.

Abnormal Vascular Supply to the Liver.—Rolleston (Jour. of Anat. and Physiol., October, 1889) found the following anomalous arterial supply to the liver in the body of a man sixty-eight years of age:

In place of a single hepatic trunk from the cœliac axis, there were three arteries:

1. A branch from the gastric artery, which divided into a large branch which ran into the left lobe of the liver, and a second branch, of half the caliber of the first, which sank into the fissure for the ductus venosus; its ultimate distribution was found by dissection to be to the left lobe of the liver. The origin of this abnormal hepatic artery is ascribed to a further development of the inosculation between the pyloric branch of the hepatic and the gastric arteries. There was also a free communication between the two vessels on the lesser curvature of the stomach, a pyloric branch being given off by the vessel next described.

2. An artery which arose from the cœliac axis and took the course of the normal hepatic artery to the liver. It gave off a pyloric branch and two branches to the Spigelian lobe, and then sank into the portal fissure to terminate in the left lobe. This vessel at its origin was of about half the size of the vessel derived from the gastric artery. It was evidently the normal hepatic, much diminished in size and curtailed in its distribution.

3. The third vessel arose from the superior mesenteric, and, passing up between the head of the pancreas and the duodenum, passed through the right pancreatico-gastric fold and the gastro-hepatic omentum to the portal fissure. It then split up into four branches of unequal size—(*a*) the cystic artery, which ran downward to the gall bladder; (*b*) a small artery, the continuation of the main vessel, which passed under the right branch of the portal vein into the caudate lobe; (*c*, *d*) two arteries, one lying on each side of the latter, considerably larger than the first two, which passed into the right lobe of the liver. This vessel represents the right branch of the hepatic, as is shown by its distribution to the right lobe of the liver and by its giving off the cystic artery. Its origin from the superior mesenteric is due to the anastomosis between the inferior pancreatico-duodenal branch of that artery with the superior pancreatico-duodenal from the gastro-duodenal branch of the hepatic becoming dilated to supply the needs of the right lobe of the liver.

The liver was irregular in shape but not morbidly altered. Its weight was twenty-nine ounces.

The occurrence of abnormal hepatic arteries is not uncommon, and accessory hepatic arteries are also met with, but in this case the presence of two accessory hepatic arteries is worthy of note.

Variation in the Nerve Supply of the First Lumbrical Muscle in the Hand.—According to the observations of Dr. St. John Brooks, published some time ago, the first lumbrical muscle was the only one in the hand whose nerve supply appeared to be quite constant. But Wilson (Jour. of Anat. and Physiol., October, 1889) describes two cases in which the nerve supply of this muscle showed a departure from the normal arrangement exactly comparable to that so frequently noticed in the case of the others. The nerve supplies in these two cases resembled each other so closely that a description of one may serve.

The first lumbrical muscle received on its superficial aspect the usual branch of supply from the branch of the median nerve proceeding to the radial side of the index finger, but, in addition, there was found entering its deep aspect a nerve twig which was traced deeply to that branch of the deep division of the ulnar nerve which supplies the first dorsal interosseous muscle. This fine branch passed downward in the hand upon the surface of the muscle, probably supplying twigs to it, and lying beneath the fascia covering the interosseous muscles. It then pierced this fascia and passed forward to gain the deep surface of the first lumbrical muscle.

Miscellany.

The New York Academy of Medicine.—At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 21st inst., Dr. H. D. Speakman will show an improved Javal's optometer, and Dr. Clarence J. Blake, of Boston, will read a paper on Mechanical Experiments in the Treatment of Middle Ear Disease.

At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 22d inst., Dr. W. Freudenthal will read a paper entitled Translumination of the Larynx and of the Antrum of Highmore, with Demonstrations; and Dr. W. F. Chappell will read a paper on Neurasthenia and Neuralgia from Traumatism of the Nasal Passages.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 24th inst., Dr. C. D. Scudder will report A Case of Kyphotic Pelvis; and Dr. H. J. Boldt will read a paper on Salpingo-oophorectomy and its Results.

Venesection in Chlorosis.—"The practice of venesection in chlorosis would not at first sight appear likely to yield good results, but that it is capable of acting most beneficially is vouched for by Dr. Wilhelmi, who has for some time past employed it with great success in typical cases of chlorosis (not of lead poisoning, as was by an error printed in last week's issue). About three or four ounces of blood only should be taken, the patient being in bed and being covered up with blankets and plied with hot drinks until sweating comes on. It would appear that the severer the case the more benefit may be expected from the bleeding, but that this treatment is of little use in mere hysterical or symptomatic anæmia."—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

LECTURES ON SOME POINTS IN THE TREATMENT AND MANAGEMENT OF NEUROSES.

DELIVERED BEFORE THE
MEDICAL SOCIETY OF THE UNIVERSITY OF TORONTO,
March 11 and 12, 1890.

By E. C. SEGUIN, M. D.,
PROVIDENCE, R. I.

Lecture II.

Two precautions are necessary previous to beginning the treatment of a case of migraine by cannabis indica: First, to make sure that a good extract is used to dispense the pills; and, second, that the patient continues to procure the same quality of extract during the entire treatment if possible. Extract of Indian hemp is one of the uncertain preparations, and I have been in the habit for several years of specially writing for Herring's English extract. Squibb's preparation is also good, and I doubt not that a number of others may be equally so. The reason for always using the same quality of extract for a given patient is that, as you increase the doses, very unexpected and sometimes decidedly unpleasant effects may be produced through a change of extract by the druggist.

I usually begin by ordering a sixth of a grain (0·01) alone or in combination with arsenious acid—a sixtieth of a grain (0·001)—or with iron, or with digitalis, according to indications, in pilular form, to be given three times a day, before meals usually. Each week I increase the dose by a sixth of a grain (0·01) until the maximum of toleration is reached—*i. e.*, a dose a little less than that which produces a light-headed, semi-drowsy, dreamy state. Most adult male patients are able, after some training, to take a grain (0·06) of the best extract three times a day; women seldom more than a third or half a grain (0·02 to 0·03). This maximum dose is to be kept up for many months, a year, or longer. Occasionally, as in the continuous giving of bromides, the patient develops, from some change in his condition, a greater susceptibility to the drug, so that it is sometimes necessary to vary the maximum dose. During this prolonged treatment the patient's eyes may be corrected, his diet regulated, physical exercise gradually carried to considerable proportions, and, in some cases, the use of the eyes in reading, sewing, etc., reduced to a minimum.

When I refer to regulation of diet, I mean with reference to the lithæmia (oxaluria) which is manifest in so many cases of migraine, and I do not refer to ordinary indigestion. I must take this opportunity of saying that few quasi-medical notions have been so mischievous in practice as that which explains attacks of migraine and epilepsy by indigestion or "biliousness." The chief support of this notion (it is not worthy of the name of theory) is the fact that in migraine, and in some cases of epilepsy, vomiting (of partly digested food or of bilious material) is a prominent accompaniment of the attack. Careful observation and theoretical considerations long ago led me to look upon this vomiting as a result or as one of the symptoms of attacks of migraine and epilepsy; and neurological authorities agree in supporting this view. Migraine and epilepsy continue in spite of most careful regulation of diet based on supposed dyspepsia, and in most cases the vomited matter contains only good food partly digested. The rejected mass is very sour, but this is normal; bile is also ejected if the act of vomiting is severe, but this is only due to strong prolonged muscular effort, and in no wise indicates a "bilious state." The same critical remarks apply, to my mind, to the real relation of vomiting to sea-sickness; the gastric disorder is usually secondary and of no pathological importance. Besides, we well know that the headache of indigestion is diffused, often frontal; the pain dull, with a tendency to drowsiness or even stupor—characters in sharp contrast to the neuralgic, unilateral, and paroxysmal (quasi-periodical) pain of migraine. I beg that you will pardon this digression, but I have been led to make it because I have met with so many cases of migraine, and some few cases of epilepsy, which had been either neglected or maltreated because of the physician's belief in this popular notion.

The treatment of migraine which I have outlined—viz., that by the continued use of cannabis indica (or belladonna), by the correction of ocular defects, and of lithæmia—constitutes the general or interparoxysmal treatment. During a paroxysm it is best to suspend the medicines for twenty-four or forty-eight hours.

In the suffering of the attack of migraine, often excruciating, patients clamor for relief, and not in vain. We are able to do much for their comfort. First of all, let me entreat you never to give morphine or opium. Patients who have tasted of this forbidden but delicious fruit will ask you for it at once, urging all sorts of reasons. The objections to the use of morphine in this and other neuroses I shall consider at length in a subsequent lecture. The two most successful remedies for the attack are antipyrine and caffeine. These should be given as early as possible—even before the onset of pain, as can be done in those cases which present optic or sensory precursory symptoms, or even only a sense of *malaise*. I believe that antipyrine was first given in migraine by Dr. T. S. Robertson,* of New York, though his paper on the subject appeared somewhat later than that by Dr. White,† of England. With Dr. Robertson, I believe that it is best to give a massive single dose of the remedy (at least after a preliminary trial has not revealed any undue susceptibility to the drug), say of fifteen (1·) or twenty grains (1·50) to a female patient, and twenty (1·50) to thirty grains (2·) to a male patient. In the last year I have always given some digitalis—from five to ten minims—with each dose, to counteract the depressing effect of antipyrine on the heart. In many cases such a dose cuts short the attack. Unfortunately, some patients find that the drug loses its efficacy after a while. Still, it is at present our most successful remedy.

Caffeine is very efficacious in cases which have an optic aura or premonitory symptom—such as hemianopsia, hemichromatopsia, or hazy vision for a few minutes before the neuralgic pain appears. I formerly gave the citrate of caffeine, but some three years ago became convinced that this was a very unreliable preparation, and began giving pure caffeine with much better results. To an adult male patient I give, at the first warning of attack, or when the pain begins, a grain and a half (0·10) every quarter of an hour until the pain ceases or five doses have been taken. This often aborts the attack. In some patients the drug produces an excited, tremulous condition, which, however, is preferred to the pain. The granular effervescent salt of bromide and caffeine (so-called bromo-caffeine) is of much inferior efficacy, and I advise you not to use it, unless you can not procure caffeine.

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* Med. Record, 1887, i, p. 517.

† Cited in Med. News, July 10, 1886.

Paullinia or guarana, as powder, fluid extract, or elixir, occasionally succeeds also; but full doses must be given—a teaspoonful of the fluid preparation every half-hour till four or five doses have been taken. Its efficacy depends upon caffeine, which is its active alkaloid (four to five per cent.).

Nitrite of amyl by inhalation has been proposed and used, but my experience with it has been unsatisfactory. It was advised on a theoretical ground which I believe to be unsound—viz., the vascular theory of migraine, first advanced by Du Bois-Reymond. According to this theory, which has had the support of several distinguished names, there are two varieties of migraine—one angeiospastic, in which the arteries of the face, eye, and brain (on one side) are in a state of spasm, and the parts supplied by them ischæmic. In the other variety, termed angeioparalytic, the same arteries are relaxed and the parts are hyperæmic. In the angeiospastic form (which is said to be the more common) nitrite of amyl is theoretically indicated. Unfortunately, gentlemen, clinical observation does not justify any such classification. For my part, as regards the state of the arterial circulation in migraine, I believe that there is always a spastic or contracted state of the arteries at first (as in epilepsy), and that this is followed by dilatation or relative paralysis of the vessels.* Practically it has been proved that amyl rarely relieves the pain, and never (in my experience) cuts the attack short. In some cases it increases the suffering.

When the pain is fully developed there is very little to be done except to keep the patient in a darkened room, perfectly quiet. Sometimes Duquesnel's aconitine, a granule of one two-hundredth of a grain every hour till some numbness appears, gives relief. I have also obtained relief from bromides, chloral, croton-chloral, and sulphonal, in full doses. A hypodermic injection of crystallized hyoscyamine (one fiftieth of a grain) sometimes gives relief for several hours, and is not objectionable, as morphine is, because habit is never entailed by its use.

External applications (cold, heat, sinapisms, the menthol cone, galvanism, etc.) have given relief in isolated cases, but so rarely as not to be of much value. But by all means try everything in a given case, except to give morphine. This will relieve the pain, but assuredly increase the frequency of the paroxysms and the (apparent) severity of the pain, each attack being "worse than the last," and requiring more of the fatal remedy. The end for the patient is the morphine habit; for you, the reproaches of the patient and his relatives.

The question is often asked, Is it better to give up to an attack of migraine, or to struggle against it and go about one's duties as far as possible? You will have to decide this question for each case by a study of the attack and of the patient. Most patients, particularly women, do best if they retire to a quiet, dark room and try to rest during the paroxysm. Others, usually men, with strong will-power and attacks of moderate severity, can go about their daily duties tolerably well and are no worse off. Everything here depends on the patient's susceptibility to pain and his power of reaction, or, to put it psychologically, upon the relation existing between his sensibility and his volitional energy.

In this way, by a rational continuous treatment between paroxysms and the use of a few harmless drugs to cut short or moderate the attacks, the life of most subjects of migraine can be made absolutely or relatively comfortable until the age of spontaneous cessation of the disease is reached.

A very interesting point in the natural history of migraine is its occasional aggravation and transformation into constant headache, usually occipital, between the fortieth and fiftieth years. I have not the time to enter upon a consideration of this singular phase of the disease, which is as yet unexplained, and which taxes the physician's resources to the utmost.

Allow me, however, just a moment to make a general remark about the symptom headache. We are almost daily asked to prescribe for headache at one *séance*, off-hand as it were, and with the expectation of success. Not only is this done by patients, but physicians bring or send headache cases to a specialist with the idea that an hour of careful examination will reveal the pathology of the headache, and that the advice given must lead to relief if not to cure. I would here express it as my deliberate opinion, as the result of much study of the subject, that there is no problem presented to the physician so difficult as that of the pathology and therapeutics of a chronic headache. Frequently several days of study of the patient, with the assistance of the best ophthalmologist, are required to solve the problem; and there are cases in which, after months of study and trial of remedies, we are obliged to give up in despair; we have not discovered the pathology of the case, and all our remedies, including ocular treatment, fail to give relief. I would urge you to study every case of chronic headache presented to you patiently and thoroughly before giving an opinion or beginning a systematic treatment. The palliative remedies may, of course, be prescribed at once, but truly curative measures should only be adopted after sufficient observation.

What I have said of the use of caffeine at the onset of an attack of migraine should be supplemented by the statement that very strong black coffee (infusion) may also succeed. The addition of lemon-juice recommended by some is useless. As in many cases of migraine nausea and vomiting are present at quite an early stage, preference should be given to caffeine, as being less bulky than antipyrine. Besides, caffeine powders may be carried about in the pocket and used early if an attack begins during the day while the patient is away from home.

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* There are many reasons for thinking that the arteries usually contracted in migraine are the posterior cerebral and its branches which supply the sensory areas or divisions of the hemispheres, and the caudal fasciculi of the internal capsule. In cases where hemianopsia precedes the pain, spasm of the occipital artery (supplying the cuneus on one side) may quite surely be assumed to occur.

If you will allow me another digression, I should like to refer to a matter of great importance in general practice—viz., the use of coffee in dyspepsia, fermentative dyspepsia more particularly. If there is one direction more often and more emphatically given than any other to dyspeptic people it is to drink no coffee or tea. In some way the use of tea and coffee has come to be looked upon as highly injurious to digestion by the laity and physicians. Yet I believe that there never was a greater medical delusion. It may have originated from the fact, which I recognize, that the abuse of very hot drinks (tea, coffee, and I would say soups also) may give rise to chronic gastritis. The chief reason, however—very good so far as it goes—is that dyspeptic persons feel worse after taking what is *called* coffee at breakfast. Some eight or ten years ago I began to suspect that the reason why breakfast coffee disagreed was because its composition made it a liquid favorable to fermentation. The cup of coffee which almost every one takes at breakfast (and tea at breakfast or lunch) is a mixture of coffee, ridiculously weak usually, milk or cream, and sugar. This "cup of coffee" is unquestionably bad for dyspeptics, and perhaps not overdigestible for any one. After my return from Europe in 1883 I began giving dyspeptic patients good strong coffee, without milk, cream, or sugar,* with their breakfast of meat or eggs, and very little bread (no other farinaceous food, of course). It was at first difficult to induce patients to make the trial, as they were so prejudiced by former medical statements that coffee was bad for their digestion and for their "nerves." The results were extremely gratifying, and I have gradually made it a part of my diet *régime* for all patients suffering from evident fermentative dyspepsia, with or without catarrh, and from so-called nervous dyspepsia. I direct that they shall take one large breakfast-cup of strong (dark-brown) coffee, made without boiling, not too hot, without sugar, cream, or milk, with their breakfast. In cases where nervous prostration and early morning mental depression are marked I order, in addition, a small cup of the same coffee, with a two-grain pill of quinine before rising and attempting to dress. I have induced two or three of my professional friends to try this revolutionary practice, and they are so far satisfied with the results.

Why should not plain infusion of coffee be beneficial to dyspeptic, nervous, worn-out subjects? It contains no element of fermentation, and, if made without boiling, hardly any tannin. We introduce into the patient's stomach so much hot water (which is well known to be favorable to digestion), *plus* a certain quantity of caffeine. Now, caffeine is a cardiac tonic, an exhilarant, and a diuretic—three properties which meet indications presented by these patients—viz., feeble, irregular cardiac action, nervous and mental depression, insufficient renal action. In this lies the advantage of coffee infusion; it stimulates the heart and kidneys. Dr. S. Weir Mitchell recommended, many years ago, a cup of black coffee in the early morning for cases of neurasthenia; but his main object was to obtain a stimulating action on the intestines; it does favor the occurrence of daily alvine evacuations. But I think that the indications which I say it fills are much more important. What are the objections to coffee? It may cause so much cerebral excitement as to postpone or banish sleep; but this objection does not hold as against coffee at the beginning of the day. It causes tremor or, popularly speaking, "nervousness" in some persons; but this, I think, is rare, and is usually caused by the use of excessively strong coffee. Caffeine and coffee have, in the last ten years, assumed a justly prominent place in our list of potent physiological remedies. I can and do urge you to make a trial of black coffee in your dyspeptic and nervous cases. In some cases the effect of the very early cup of coffee is wonderful; the quasi-melancholia passes off; the patient rises, takes her cold sponge-bath and dresses with comparative ease, and comes down to breakfast with some energy and ambition.

V. Trigeminal Neuralgia or Tic Douloureux.—In this affection, as in epilepsy, we have cases in which there is recognizable gross disease of the nervous system, and others in which the most careful examination reveals only subjective symptoms—viz., pain and hyperæsthesia. In other words, we have symptomatic and idiopathic cases. The latter are by far more common, and it is about this form of the disease, in its aggravated chronic type, that I desire to lay my therapeutic experience before you.

You are all doubtless familiar with the disease. Paroxysmal pain, often of the most intense, piercing, darting character, affects one of the large divisions of the fifth cerebral nerve, or more than one; rarely all its branches, lingual and deep auricular included. The paroxysms recur every few moments while the patient is awake, and last from a few seconds to two or three minutes. Lacrymation accompanies pain in the ophthalmic division, salivation appears when the inferior division is involved. At the onset of pain, speech is suspended, the patient contracts his features, closing the eyes and drawing up the mouth on the affected side (an automatic, protective, associated movement which has given rise to the utterly unfounded belief that the facial or seventh nerve is involved and that there is a morbid spasm); he often claps one hand tightly over the seat of pain, or rubs it violently; he may groan or cry out aloud in his agony. These signs are so striking that almost always we can make a diagnosis without asking a question by observing the *facies* of the patient.

Such cases, of months' and of many years' duration, have long been deemed beyond the reach of drugs, and have been (during this century at least) placed under the surgeon's care for operative treatment. Some cures have been obtained by exsection of pieces of the affected nerves, or by removal of Meckel's ganglion, but the large majority of cases relapse after an interval of a few months. The disease has been one of the *opprobria* of medicine.

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* One third or one quarter of a grain of saccharin may be used to sweeten.

I am, however, glad to be able to tell you that in the last thirteen years we physicians have been able to cope fully as well as surgeons with this dread disease. Some cures have been obtained, and numerous patients greatly relieved by the use of that potent alkaloid, aconitine. It was first used for this purpose in France by Professor Gubler, who published a short paper upon it early in 1877.* I immediately had some of Duquesnel's crystallized aconitine imported by a New York pharmacist who always displayed zeal in furthering the use of new and rare drugs,† and began using it. A first report upon its use in trigeminal neuralgia was made by me to the New York Therapeutical Society ‡ in October, 1878. Out of six cases treated by myself and other members of the society, all severe and of long standing, two were cured (?), three slightly relieved, and one unaffected. One of the cured cases had existed for seven years.# I have since learned that we did not then give enough aconitine or persevere long enough in its use. From quite a large experience since, I am able to say that very few cases are not relieved by aconitine, and that a fair proportion can be cured, or at least given intervals of from one to three years—results which, I think, compare very favorably with those obtained by surgical measures.

For the treatment of these cases I have come to rely upon the combined uses of aconitine and "mixed treatment," so-called.

The alkaloid is now readily obtained in any part of the country, or can be procured by the country practitioner from one of the great cities in a short time. It is one of the few drugs which I think it best to order as made up by the large manufacturers. McKesson & Robbins and Schieffelin, in New York, make pills of Duquesnel's crystallized aconitine (the kind you should always specify in your prescriptions) of the strength of one two-hundredth of a grain, which, by repeated tests at different times, I have found to be absolutely reliable. I might say that, being moderately sensitive to the drug, I make it a duty to test the pills or granules of these firms on myself once or twice a year. Two of these pills will produce in me distinct tingling numbness in the face, tongue, and extremities for two or three hours, also a disagreeable sense of chilliness or coldness, most marked along the spine. These pills, thus known to be strong and uniform at different times, I give in progressive doses to a patient with trigeminal neuralgia until the numbness is felt throughout the body, with chilliness, and in some cases nausea and faintness. Begin cautiously with this drug, gentlemen, but, after finding that your patient is not abnormally affected by it, proceed to the fullest doses fearlessly if you wish to succeed. Nowhere in medicine is there more demand for cautious temerity (if I may be pardoned the expression) and confidence in the use of your weapon than in the dosage of aconitine. I have had no fatal result from it, in spite of many bold experiments.* At first I give one pill twice a day to women (who occasionally exhibit undue susceptibility to its influence †), and three times a day to male patients. These doses usually produce no effect, remedial or toxic, so I increase gradually but steadily until in some cases I give twelve pills a day (two every three hours) before obtaining the universal numbness, etc., which denote the full physiological effects of the remedy. During the spring of 1889 I gave, on one day only, as many as fourteen of these pills (equal to fourteen two-hundredths, or, roughly speaking, one thirteenth of a grain (0·0045)) to a large young girl twenty years of age. She felt numb through the whole body, was a little faint, and was nauseated. In the majority of cases two pills three or four times a day will produce physiological effects and suspend the pain even of severe trigeminal neuralgia. Having thus found the dose which is both tolerated and efficacious, I keep it up daily for several weeks after the pain has ceased, and in convalescence direct the patient to take a large dose—two or three pills—at once on the least return of sharp pain.

The "mixed treatment" which I now always give simultaneously with the aconitine to patients with trigeminal neuralgia, whether they give a syphilitic history or not, ‡ needs only a few words of explanation. I combine the red iodide of mercury, in doses gradually increased from one twentieth of a grain (0·003) to one sixth or one fifth of a grain (0·01) with from twenty to forty-five grains (1·50 to 3·00) of iodide of potassium in water, ʒ j (4·0), largely diluted after each meal. Though I have several times given the larger doses of potassium iodide—from 60 to 150 grains (4·0 to 10·0) three times a day—I think that is rarely advisable. This medication I continue for two or three months steadily, then give a month's course of it every few months afterward.

Very often, if not always, as a case of trigeminal neuralgia approaches cure there are spots or areas on the face or head that are exquisitely sensitive to touch, and irritation of them gives rise to a momentary return of more or less of the original pain. This hyperæsthesia can readily be overcome by blistering or lightly cauterizing the part. In the last ten years I have several times successfully employed this accessory treatment; in the last case, during the past winter, a hyperæsthetic and algogenic spot on the lower lip was rendered normal by one application of the Paquelin cautery.

It has also been my custom to give an abundance of

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* Gazette hebdomadaire, 9 fév., 1877.

† The late Mr. Neergaard.

‡ New York Medical Journal, December, 1878.

I should add that two or three years after that report a relapse occurred and the patient has never been free from pain since. She now occasionally reports at the Manhattan Eye and Ear Hospital, having thus been faithful to me for fifteen years.

* The Physiological Effect of Aconitia in Posterior Spinal Sclerosis; Can it become an Aid in Differential Diagnosis? Opera Minora, p. 492, and Journal of Nervous and Mental Diseases, July, 1881.

† Case of a woman unpleasantly affected by one dose of one four-hundredth of a grain (0·00015), by Dr. Andrew H. Smith; cited in Opera Minora, p. 601, and Archives of Medicine (New York), June, 1882.

‡ *Vide* The Efficacy of Iodide of Potassium in Non-Syphilitic Disease of the Nervous System, Archives of Medicine (New York), June, 1883. And I believe that mercury also has a similar efficacy in some cases.

nutritious food to these patients, and cod-liver oil as well. They often present themselves in an emaciated, anæmic condition from starvation. Chewing is impossible in many cases, and swallowing is so painful that they take as little food as possible to escape paroxysms of neuralgia. In this stage, before the pain is subdued, I order stated quantities of rich milk, or cream and milk, to be taken in twenty-four hours; also so many eggs (from four to eight) taken raw, or beaten with the milk, or slightly cooked. Often it is well to allow some brandy or whisky with the milk. I also urge the patient to take the expressed juice of beef, strong coffee, and oatmeal porridge. Under such a diet, with relief of pain by the aconitine, the patient rapidly regains color, weight, and strength; his nervous system is better nourished and less susceptible to the molecular vibrations which cause pain. Thus food (including cod-liver oil) becomes a part of the treatment.

Some cases of trigeminal neuralgia, not always the oldest ones, resist this treatment. I have had two such under my care in the last sixteen months, one of them being that of the young lady who was able to take fourteen pills of aconitine in one day. The inferior maxillary nerve was finally resected in this case, but, after an interval of seven months of perfect freedom from pain, it reappeared last November, and again resisted treatment.

Still I maintain that the present standpoint of the medicinal therapeutics of this disease is vastly advanced from what it was ten years ago.

VI. Basedow's Disease.—Although I know that I am trying to crowd too much into these lectures, I feel that I must add something which may be novel to you in the treatment of the obscure neurosis known by this name, or as exophthalmic goître. The usual treatment by iodide of potassium, iron, etc., and by galvanization of the neck, is familiar to all. The two new measures I wish to call your attention to are, first, the systematic employment of aconitine, and, second, bandaging of the protruding eyeballs. In 1884 I rather accidentally discovered that aconitine (the crystallized aconitine of Duquesnel) exerted a powerful reducing influence on nervous or irritative fast pulse—*i. e.*, a fast pulse with high tension and normal heart, easily distinguished from the fast pulse of cardiac disease or general debility or fever.* Aconitine, in granules of one two-hundredth of a grain, greatly reduces the pulse-rate and also the arterial tension. In Basedow's disease I give from three to eight pills a day—enough to produce slight tingling in the lips and extremities—for days and weeks, occasionally stopping for a few days. On the average, it is necessary to give two pills three times a day; under this the pulse-rate steadily falls from the upper limits of 160 or 140 a minute to below 100. After that the fall is slower, but in many cases goes on until 90, 80, and even 70 beats are recorded to the minute. At the same time the eyes and neck usually improve. This treatment occasionally fails, but it never does any harm. I have used it in quite a number of cases, some without goître and exophthalmia, since 1884, and it has been tried with good results by several of my professional friends. At the same time iodide of potassium or iron may be given and galvanism applied in the usual way.

Bandaging of the eyes has never to my knowledge been practiced. In the last two years I have tried it in two cases with excellent results; complete reduction of the exophthalmia in one case. A carefully molded pad of soft cotton is placed over each eye, filling the orbit, and a light (of not more than three turns) flannel bandage applied with gentle but decided pressure. At first I do this for only an hour twice a day; later for periods of two or four hours. In one of the cases the bandage was applied at 10 P. M. and allowed to remain all night. During the progress of the second case, which, though it has existed for at least three years, is much improved, I have made occasional ophthalmoscopic examinations without detecting any damage due to the pressure. The pressure should not be great, as it is intended simply to counteract the dilatation of vessels in the orbit which is the usual immediate cause of the exophthalmia.

The Diet and Hygiene of Nervous Patients.

Much has already been written, and most ably, by my friend Dr. S. Weir Mitchell on this subject, chiefly in his books on the treatment of nervous diseases in women,* which no practitioner should be without. Other physicians have given their views on the topic in detached journal articles. I am therefore excused from treating the matter systematically, and shall only refer to a few measures which have interested me very much and have been reasonably successful in my hands:

I. Diet.—In considering the diet advisable for a victim of one of the neuroses, a consideration of prime importance is to bear in mind the constitution of the nervous tissues—brain, spinal cord, nerves, and ganglia.

The first point I desire to bring to your attention is the fundamental one, that the central nervous system and peripheral nerves are very largely made up of fatty substances. These are complex in their composition, some including an atom of phosphorus. Cholesterin alone (which is a non-saponifiable fat) makes up 52 per cent. of the dried white substance of the brain according to Petrowsky. This substance makes up 18·6 per cent. of the gray substance, which contains nearly twice as much lecithin (17 per cent.) as the medullary matter. Albuminoids preponderate in the gray substance (55 per cent. in the gray to 24·7 per cent. in the white). Cerebrin, which is a fat united to a molecule of nitrogen (it is perhaps an acid in its relations), is abundant in the medullary substance (9·5 per cent.) and almost absent from the gray (0·53 per cent.). Thus, in general terms, it may be said that albuminoids preponderate in the gray substance (cortex and ganglia), while fats and fatty acids are much more abundant in the medullary or myelinic substance. An extraordinary quantity of phosphoric acid and phosphates exists in the ash of cerebral substance—viz., 93·57 per cent. (Breed). We know very little of the normal or actual combinations, relations, and genesis of these substances.

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* Of course it has been long known that aconite reduces the pulse. I refer to a very decided effect upon a special sort of pulse.

* Fat and Blood, Philadelphia, 1877. Lectures on Diseases of the Nervous System, especially in Women. Philadelphia, second edition, 1885.

Funke and Wundt think that the force-producing or combustion capacity of these substances must be very great, and that the tissue metamorphosis must be very rapid. Singularly, though writing in 1887, Wundt* ignores the strongest evidence we have of the activity of nutritive (chemical) processes in health—viz., the demonstrations by Lombard and Schiff that cerebral activity is always accompanied by a local rise of temperature—a rise which is relatively great and which takes place almost instantly.

In neuroses there is no active tangible lesion, but the nervous system is ill-nourished and exhausted. The malnutrition may be congenital, produced by severe infantile disease, or due to bad diet, or to want of power to assimilate the food elements which go to repair the nervous tissues. In other cases excessive nervous action, such as acute or chronic excess, leads to functional exhaustion which undoubtedly is inseparable from chemical waste. We are not yet, unfortunately, in possession of any chemico-pathological data in this direction, as autopsies are rare in neuroses, and they do not now include a chemical analysis of the nervous organs. Furthermore, I doubt if the normal chemical composition of nervous matter is well enough known, and if our methods of analysis are yet good enough, to enable us to gather such data. Perhaps we shall learn something in this direction some day. One remarkable fact has been ascertained in the way of pathological anatomy—viz., that the brain and spinal cord do not participate to any great extent in the atrophy and visible waste of organs and tissues in marasmic conditions. This may be owing to the peculiar physical conditions, as regards atmospheric pressure, in which these organs are placed. The contents of the skull can not vary in their entirety. If the solids are reduced, serum or lymphatic fluid must at once replace them; so that, very probably, chemistry will some day reveal a real marasmus of the gray and white substance, which is concealed by excess of water in the tissues. I can not conceive of a case of extreme cerebral neurasthenia without chemical changes (especially in the cortex of the brain). We must, therefore, now proceed upon theoretical grounds in stating the indications, and upon a careful estimate of empirical results.

The great fact that the nervous tissues are largely made up of fats and of phosphates should not escape our attention while planning the diet of a case of nervous disease.

Now what are the results of empirical practice or "experience"? They are open to sources of error, chiefly from the bias and narrow enthusiasm of specialists who report their experience, yet it is chiefly upon them that we should base our dietetic treatment; and it must be so until physiological chemistry shall have made much more progress. I shall offer you my own experience.

Before proceeding to state what neurotic patients should eat, it will be instructive to inquire into their previous habitual diet.

In the first place, in working up the history of your cases of migraine, ordinary neuralgia, neurasthenia, and hysteria, more especially, you will be struck with the number of patients who have "always" disliked fatty foods, and eaten hardly any, except butter. Even this is almost totally omitted by some. On the other hand, many of these patients have eaten or drank an excess of substances made up of carbon and hydrogen (starches, sugars, and alcohol). These statements are especially true of women who complain of various neuralgias with a neurasthenic basis. Another peculiarity of these patients is that they drink very little water; and some of them have actually lost the sense of thirst—are "never thirsty."

If you examine the urine of such patients you will find it of high specific gravity, with deposits of crystals of oxalate of calcium; often also uric acid, and, of course, amorphous urates when the amount of water is deficient.

To put it another way, lithæmia and oxaluria are frequent concomitants of the neurasthenic state, more especially in those presenting neuralgic symptoms. In the great neuroses the occurrence of these deposits is less frequent and not at all regular. It is, as you know, an unsettled question at the present day, as it has been for forty years, whether the deposits are the result of the neurotic state, or whether they are more directly produced by improper food and hygiene, and themselves cause the symptoms. At the present time the weight of expert opinion is in favor of the latter view, so that the question of diet assumes an immense importance in the treatment of neurasthenia, neuralgia, etc. The theoretical question of the relation between aliments and oxaluria (lithæmia, gout, and diabetes also) is one which appertains largely to physiological chemistry and would require an elaborate chemical statement for its proper understanding. The best literature on the subject consists of Bence Jones's classical book,* a clinical lecture by Professor William H. Draper, of New York† (who has taught this doctrine continuously for the last twenty-five years), and the clinical work of Cantani, of Naples;‡ the last an admirable work, though as regards the dietetic treatment of oxaluria and gout the author is apparently unaware that physicians in New York were many years in advance of him, and does not do justice to Bence Jones. For my part, I have for a long time been thoroughly convinced that the excessive use of starchy and saccharine foods, so prevalent in this country, is a potent cause of oxaluria and lithæmia, and thus indirectly of neurasthenia; my practice has been based on this belief, and I have no reason to modify it.

(*To be continued.*)

Preparations of Naphthol.—Naphthol is often prescribed in potions which are usually made by dissolving it in twice its weight of ether, alcohol, or glycerin, and adding the solution to the potion. According to M. Mainiel, naphthol dispensed in this way soon precipitates. He proposes that the naphthol be dissolved in ten times its weight of the oil of sweet almonds.—*Union Phar.*; *Répert. de pharm.*; *Am. Jour. of Pharm.*

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* Grundzüge der physiologischen Psychologie, 3te Aufl., i, p. 39 *et seq.*

* Lectures on Pathology and Therapeutics, London, 1867.

† American Clinical Lectures, No. 12. 1875.

‡ Specielle Pathologie und Therapie der Stoffwechselkrankheiten, German edition, Bd. ii, Berlin, 1880.

Original Communications.

CONSERVATIVE TREATMENT IN COMPOUND DISLOCATIONS OF THE ANKLE JOINT.

By RICHARD H. GIBBONS, M. D.,
SCRANTON, PA.

In further support of conservatism in the treatment of compound dislocation of the ankle joint, as recommended by Mr. Croley, of the Royal Academy of Medicine in Ireland, and published in your issue of January 25th, I herewith inclose notes of three cases which came under my care; two of them, it will be noted, were complicated by fracture of the astragalus; while the third was of fracture of this bone without dislocation, still it has an important bearing upon cases of ankle-joint injury and the conservative treatment thereof:

Case I.—A miner, aged twenty-four years, while engaged in the pursuit of his occupation, received an injury caused by the falling in of a mine roof, consisting of coal, rock, dirt, etc., his brother, who was his working companion, being instantly killed. The injury received was entirely confined to his left leg and ankle joint. He was placed in an ambulance and taken to his home, where I saw him within an hour after the accident. Upon examination, it was found that he had sustained a fracture of the astragalus; the upper half of this bone, the tibio-fibular articular portion, was lying partially detached in the wound; a loop of tendon was also lying in the wound. The foot, incased in its shoe, was, previous to the examination, so completely separated from its outer attachments as to be seen with the sole of the shoe facing the perinæum; further examination revealed a characteristic Pott's fracture of the tibia and fibula, while at the junction of the middle and upper third of the fibula was found another fracture.

The shock was not of a degree to forbid immediate surgical interference, so I at once unhesitatingly advised amputation; in advising this course, I did say, however, that there was a possibility of saving the limb; but the risks attendant upon such a course were placed before the patient and his friends. They chose to pursue the conservative course, so that amputation was not to be considered, unless as a secondary operation. I removed the partially detached fragment by a few strokes of the knife; the loop of tendon was drawn upon to enable me to determine whether or not it was detached; it came away, and thus was disclosed the peroneus brevis muscle almost in its entirety. Into the space thus produced a large-sized rubber drainage-tube was passed. The wound was now thoroughly washed out by means of carbolized water, carefully bandaged over pads of carbolized cotton wool, and the limb was then placed in a Boyer's fracture-dressing.

Notwithstanding the very careful manner with which the parts were protected by means of the aseptic douching and dressing, sharp reaction soon took place. On the day following the first dressing I was obliged to go over the entire anterior and lateral regions of the leg, which were enormously swollen; and to lay open, with a scalpel, the tense structures down into the cellular tissue, thus relieving the tension. On the day following, these openings were made to communicate at favorable points, and large-sized rubber drainage-tubes were passed through them; by this means the parts were once, and ofttimes twice, a day thoroughly washed out with hot water containing permanganate of potassium, carbolic acid, or boric acid. The fixed portion of the fractured astragalus was left in position.

The patient was carefully nourished throughout his period of suffering—about sixteen weeks—and recovered with a perfectly useful limb with considerable range of motion.

Case II.—A quarryman, aged thirty-three, while engaged in quarrying flagging stone from a rock-bed, became insecure in his position, and, while endeavoring to regain his foothold, lost his balance and jumped to save himself, alighting some distance below on irregular ground surface, as he thinks, on one foot. He sustained a compound luxation of the ankle joint, accompanied by fracture of the astragalus; the tibio-fibular-articular portion was detached almost completely. There was considerable shock. I removed the loosened fragment of bone, leaving the lower portion, as it seemed to be firmly fixed. The overhanging skin and shreds of tissue were removed by scissors, all hæmorrhage was controlled by forcipressure, and a large-sized drainage-tube of rubber was passed through the space left by removal of the fragment, by means of a counter-opening. The wound was then thoroughly dried and filled with boric acid and borated cotton. The foot, joint, and leg, up to the middle of the thigh, were then enveloped with Gamgee's cotton-wool tissue, and this in turn covered by his absorbent bandages. The entire limb was then rendered immovable by means of millboard molded to the parts and retained in place by additional bandaging. Later on, plaster-of-Paris bandages were used to fix the parts—the plaster case being opened up the entire front, immediately after having been applied, to prevent any dangerous compression.

The dressings were removed from time to time. In four weeks the wound was mostly healed, and in about eight weeks the patient was around on crutches, with but a slight amount of lameness, which in due time disappeared. There is some stiffness of the ankle joint, but not sufficient to impair its usefulness.

Case III.—A chief engineer in a large steel mill, aged forty-six, while examining some machinery in motion, thoughtlessly stepped into a pit wherein revolved a shaft, and at this particular spot a set of cogs, in which the inner side of his foot at the ankle joint, just below and behind the internal malleolus, was immediately caught. His cries soon attracted the employees, and in a very short time the machinery was stopped, and, after some considerable effort, his foot was extricated from its perilous position; he was taken to his home, but a short distance from the scene of the accident.

I was summoned at once to his bedside, and found, upon examination, that he had a severe lacerated dug-out condition of the soft parts, involving all of the structures down to the bone—viz., the astragalus—which was found to have quite a groove gouged out of its inner surface, and it was also found that the upper (tibio-fibular) articular portion was movable preternaturally, which on further examination was found to be due to fracture. This mobility, however, was not sufficient to warrant removal of the fragment. There was considerable oozing, which was found to issue principally from the seat of bone injury; there were a number of other bleeding points, all of which were controlled by forcipressure, hot water, and sponge pressure. The posterior tibial artery was severed and about an inch and a half of the vessel appeared to have been torn away; both ends of the vessel were plugged with firm clot. They were further secured by ligatures and the parts thoroughly washed with bichloride solution. The edges were then approximated as nearly as possible by means of silver sutures, rubber drainage-tubes were inserted, the wound dressed, and the most strict antisepsis observed throughout the entire treatment of this extensive injury. The recipient of this wound was a native of Germany, but when a boy was sent to Paris, France, where he was educated, and there remained until he was a man upward of twenty. His habits were those of a generous liver; in no way was he an alcoholic, but given to the liberal use of wine, living as the liberal classes of France generally live. He was a large, fleshy man, highly intelligent, and equally sensitive. I had immediately procured for his case one of New York's most reliable trained nurses, who gave him every attention. Within five days after the receipt of the injury his urine was noted as having grown much darker in color than that of normal urine; the quantity was diminished; he became restless and violently delirious. I now discovered that these unfavorable changes were due to iodoform absorption. In proportion as the quantity of this drug was diminished, in proportionate degree was the excretion of urine increased, and in like proportion was there a subsidence of the delirium, until at last, when iodoform was entirely kept away from his person, the quantity of urine was rapidly increased—from eight to twelve ounces *per diem* at the time when iodoform was used freely, up to normal amount. At various times throughout his treatment I could at will cut short his urine quantity by the application of iodoform to the wound surface, as I verified by trial on a number of occasions. The diminished urine quantity and delirium would likewise occur later on, when I wished to stimulate granulation, and in a sluggish part of the wound I used resin ointment, which also brought on these symptoms. I then began to use balsam of Peru, it producing like effects. Now in turn were tried other forms of the terebinthinates, all producing the same results; and not until I resorted to the use of boric acid could I get any drug to act efficiently without diminishing the secretion of urine, and thus causing the consequent delirium. This was an interesting feature when considered with the foregoing history, for neither albuminuria nor other forms of organic kidney change were ever found. The reason for this drug intoxication, in the absence of evidence of kidney lesions, by drugs so dissimilar as iodoform and the terebinthinates, I will not now attempt to explain. The occurrence of such symptoms remains interesting nevertheless.

This wound healed very slowly indeed, which was to be attributed to two causes aside from the foregoing, one being the necrosis of the fractured portion of the bone, which finally rendered its removal necessary. The principal cause was loss of nerve supply, as there was a large portion of the posterior tibial nerve torn away; this unquestionably modified the nutrition of the parts. I did not carefully note at the time the extent of anæsthesia of the foot caused by loss of nerve supply; but, after healing had taken place, it was carefully tested and noted by Professor H. C. Wood, of Philadelphia, who was called here to consult with me in another important case, and he found it to be quite extensive at that time.

This patient made a complete recovery, although it took many months before he could endure the weight of his body upon the injured foot. Throughout the entire management of this case I frequently examined the patient's urine both chemically and microscopically without finding any product whatever that would account for the effects produced by the use of the drugs that caused the symptoms of suppression of the urine, which, from the terebinthinate character of most of them, would at least suggest disease of the kidneys. This, however, was not the case.

435 Wyoming Avenue.

The Marion Sims School of Medicine is the name of a new institution in St. Louis. So far as the faculty has been decided on, it includes some of the best-known men in the Southwest.

The University of Pennsylvania.—Dr. H. A. Hare, the editor of the Medical News, has just been appointed clinical professor of diseases of children at the University of Pennsylvania.

ACUTE TONSILLAR ABSCESS (QUINSY).

By HORACE CLARK, M. D.,
ASSISTANT AT THE VANDERBILT CLINIC; MEMBER OF THE MASSACHUSETTS MEDICAL SOCIETY.

With Permission of Professor G. M. LEFFERTS, M. D.

The following case occurred in a boy baby fourteen months old, and attracted notice on account of the age. He is a well-developed child, always well and hardy till the present sickness began, and has been nursed entirely at the breast:

On February 8th the mother noticed that the child was uneasy and that the neck was swollen on the right side. The next day a feverish condition and stertorous breathing developed. The baby frequently became cyanosed and could not lie down or sleep.

February 11th.—Examination of the throat showed the well-known appearances. Poultices were prescribed.

15th.—The "pointing" of the abscess could not be located; but on this date, and also on the 18th, considerable pus was evacuated by pressure during examination. The mother states that on March 1st "a quantity of yellowish-looking matter" came through the baby's nose after coughing. Since that time the little patient has been steadily improving.

March 7th.—The swelling inside and outside had almost entirely disappeared, and there was no pain on pressure.

THE ACTION OF CAFFEINE ON TISSUE METAMORPHOSIS AND HEAT PHENOMENA.

By EDWARD T. REICHERT, M. D.,
PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF PENNSYLVANIA.

The extensive use of coffee by mankind is proof sufficient that it supplies some important wants in the economy, but as to what properties its virtues are to be attributed is yet largely a matter of speculation or inference. Its agreeable qualities as a beverage, its exhilarant effects on the brain, and its asserted efficacy in diminishing the wear and tear of active life, are enough to commend it to the masses, but doubtless lying beneath these are actions little or not at all recognized, yet none the less powerful and important. While the primary use of coffee was solely as a beverage, it is evident that other and more valuable qualities were sought for. Its well-known stimulant action on the mental faculties, and its peculiar and decided antisoporific properties, caused it to be used by the Mohammedans during their prolonged and fatiguing religious rites; but chiefly to the former its rapid spread was due, even in the face of strong governmental opposition. The Orientals regard it as a specific against the debilitating influences of intense heat, and Larrey observed that during long marches the soldiers' spirits were quite as well raised by coffee as by brandy, and the effects less fugacious. We are told that caravans crossing the desert are at times supplied with coffee to the diminution, or even exclusion, of regular food. The Central Africans in their predatory excursions are believed to depend largely, or even subsist, upon a mixture of coffee and butter which is made up in the form of masses about the size of an egg, one of which is deemed sufficient to maintain a man's strength for a day. Soldiers supplied with coffee were enabled to endure long marches, continued privations, and excessive heat with ease, and Jomand states that about three fourths of an ounce of coffee and three litres of water enabled him to live for five consecutive days, during which he not only performed his regular work, but was even able to do more without other injury than slight fatigue and loss of weight.

Other evidence together with this affords ample testimony that this substance in some way enables man on a normal or restricted diet to accomplish as much or even more work than under ordinary circumstances, but whether this virtue is dependent upon an increase in the molecular changes within the body whereby more energy is evolved and tissue waste facilitated, or whether it is subjective and due to the attendant conditions of cerebral excitation, etc., has not been determined. If this efficiency is not subjective, and as there is no reason to believe that any important amount of energy is derived from the oxidation of any of the constituents of coffee, it is evident that, since man can accomplish as much work on a restricted diet, the tissues must be preyed upon at a quickened rate by the energy-yielding processes, or else that the amount of energy normally evolved is in some way conserved and economized, and thus used to greater advantage. The explanation of this important action has been the subject of much investigation in connection with various effete matters eliminated from the body which are commonly supposed to indicate the degree of activity of destructive tissue metamorphosis.

For sufficient reasons the alkaloid caffeine has been looked upon as representing the physiological actions of coffee, and as this substance and theine from tea are apparently physiologically and chemically identical, studies with one or the other of them have usually been made in preference to the use of the crude drug. These investigations have usually been chiefly in reference to the absorption of oxygen or in the elimination of carbon dioxide and urea; but the results are exceedingly conflicting. Böcker (Beiträge zur Heilkunde, 1849, S. 181; Archiv d. Ver. f. Gem. Arb. z. F. d. Wiss., Bd. i, S. 213) states that both coffee and tea diminish the quantity of urea and other nitrogenous matters, and while coffee caused a falling off in the amount of CO_2 eliminated, tea did not. Julius Lehman (Annal. d. Chemie u. Pharm., 1853, Bd. 87, S. 275) records that on a regulated diet six grains of caffeine daily were sufficient to cause a diminution of from 12 to 20 per cent. in the amount of urea given off. Hoppe (Deutsche Klinik, 1857, S. 181), in observations on a dog on a definite diet to which he gave daily from 0·1 to 0·4 gramme of caffeine for nine days, found that the quantity of urea eliminated was so little affected as to be insignificant. Rabuteau and Eustratiadiés (Compt. rend., lxxvii, p. 489), in experiments on themselves with both coffee and caffeine, record a decrease in the amount of urea. Eustratiadiés placed himself on a carefully measured diet for five weeks, making daily analyses of the urea output, and finally determining the daily average for each week. During the first, third, and fifth weeks no caffeine was taken; during the second week 0·15 gramme of caffeine was taken daily, and during the fourth week 0·3 gramme daily. ~~During the periods he took the drug the quantity~~ of urea was notably diminished, the falling off being particularly noticeable during the first day, and increasing during the subsequent days. Rabuteau made five periodical researches of five days each, a similarly fixed diet being maintained and the same plan of study as by Eustratiadiés being pursued, but during the second week an infusion of 15 grammes of tea was taken daily, and during the fourth week an infusion of 15 grammes of green coffee daily. During the two periods when the tea or coffee was taken, the quantity of urea was sensibly diminished, the effects of the green coffee, however, being greater. Oppenheim (Pflüger's Archiv f. Physiologie, xxxiii, S. 446) determined that his average daily elimination of urea was diminished after drinking an infusion of 41 grammes of coffee in 300 c. c. of water, and that it was still subnormal for the two days following. Fubini and Ottolenghi (Maly's Jahresberichte f. Thierchemie, 1882, S. 192) state that in a young man coffee or caffeine decreased the quantity of urea 17 per cent.

On the other hand, there is evidence to indicate that tissue metamorphosis is actually increased. Hoppe (*loc. cit.*), while finding that the quantity of urea was not appreciably affected, states that the amount of CO_2 expired is increased. Smith (Foods) found both the CO_2 expired and oxygen inspired increased. Roux (Compt. rend., lxxvii, p. 365) placed himself on a fixed diet, and states that both tea and coffee increased the quantity of urea; the elimination for four days without coffee averaged 35·07 grammes, and for four days after a single dose of coffee the averages were 39·4, 39, 36, and 35·07 grammes, the normal not being reached until the fourth day. In none of his researches with either coffee or tea was the quantity subnormal. Moreover, the elimination of sodium chloride was also increased. Conty, Guimaraes and Niobey (Compt. rend. de la soc. de biol., 1883, pp. 546, 632), and Guimaraes and Raposo (*ibid.*, 1883, p. 590) found that when an infusion of coffee was given to a dog, either by the stomach or injected intravenously, the amount of oxygen and carbon dioxide in the venous blood was decreased from a fourth to a half, and the sugar and urea increased. The quantity of nitrogenous food required by the animal was also increased to a marked degree, thus indicating that the chemical alterations within the body were decidedly accelerated.

While it is impossible to harmonize these contradictory results, but little value could even then be attributed to them, for recent studies clearly show that little or absolutely no reliance can be placed upon alterations in the quantities of carbon dioxide, urea, and other nitrogenous matters, as indicating, excepting under rare circumstances, the condition of tissue metamorphosis. The only sure measure we have is in the quantity of heat formed, for the energy evolved by living organisms is manifest in either heat or work, and as we can control the latter and thus have all appear as heat, and as heat results directly or indirectly from the activity of chemical processes involving the destruction of complex molecules within the organism, the quantity of heat formed is an accurate index of the extent of tissue destruction. I have thus sought by the calorimetrical method to determine the action of coffee on tissue metamorphosis. A description of the calorimeter and of the methods employed will be found in the University Medical Magazine, January, 1890. In these experiments healthy dogs were used, and in a fasting condition, having been fed the evening before. Each observation was conducted for six consecutive hours and always during the same period of the day. During the first hour a normal record was obtained, then the caffeine was given hypodermically and its effects studied during the subsequent hours. Three series of experiments were made, distinguished by the difference in dosage, the doses being, respectively, 0·035 gramme, 0·07 gramme, and 0·105 gramme per kilo of body weight. The lethal dose was determined to be about from 0·15 to 0·20 gramme per kilo. The records of the experiments of all three series will be found in a condensed form in the following tables:

First Series.

Dose, 0·035 Gramme of Caffeine per Kilo.

	Hourly heat production.	Hourly heat dissipation.	RECTAL TEMPERATURE.			Mean room temperature during hour.
			Beginning of hour.	Ending of hour.	Gain or loss (+ or —).	
Experiment 1.—Dog, weight 11·553 kilos.						
Before caffeine.	22·105	25·525	39·96	39·59	—·37	21·6
First hour after caffeine	28·006	28·375	39·59	39·55	—·04	22·7
Second " " "	32·976	33·900	39·55	39·45	—·10	23·6
Third " " "	30·276	31·200	39·45	39·35	—·10	23·6
Fourth " " "	32·511	33·250	39·35	39·27	—·08	23·7
Fifth " " "	34·568	32·350	39·27	39·51	+·24	24·5
Experiment 2.—Dog, weight 10·4 kilos.						
Before caffeine.	21·395	20·815	38·28	38·35	+·07	20·1
First hour after caffeine	24·085	24·915	38·35	38·25	—·10	20·8
Second " " "	27·483	27·483	38·25	38·25	±·00	21·3
Third " " "	26·931	27·761	38·25	38·15	—·10	22·6
Fourth " " "	27·772	27·772	38·15	38·15	±·00	22·6
Fifth " " "	27·348	26·718	38·15	38·25	+·10	22·6
Experiment 3.—Dog, weight 8·389 kilos.						
Before caffeine.	19·363	21·175	39·45	39·18	—·27	21·2
First hour after caffeine	26·862	25·500	39·18	39·83	+·65	22·3
Second " " "	28·507	27·165	39·83	40·03	+·20	22·8
Third " " "	28·907	27·900	40·03	40·18	+·15	23·6
Fourth " " "	26·570	25·275	40·18	40·37	+·19	23·3
Fifth " " "	27·219	29·500	40·37	40·03	—·34	23·8
Experiment 4.—Bitch, weight 8·403 kilos.						
Before caffeine.	21·319	24·075	39·68	39·27	—·41	22·0
First hour after caffeine	24·645	25·250	39·27	39·18	—·09	23·0
Second " " "	23·661	23·325	39·18	39·23	+·05	23·4
Third " " "	24·600	24·600	39·23	39·23	±·00	23·9
Fourth " " "	24·925	24·925	39·23	39·23	±·00	24·7
Fifth " " "	22·425	22·425	39·23	39·23	±·00	24·0
Experiment 5.—Bitch, weight 7·029 kilos.						
Before caffeine.	17·006	18·525	38·89	38·62	—·27	20·6
First hour after caffeine	22·313	19·950	38·62	39·04	+·42	21·6
Second " " "	24·225	23·550	39·04	39·16	+·12	22·1
Third " " "	23·300	23·300	39·16	39·16	±·00	22·7
Fourth " " "	20·000	20·450	39·16	39·08	—·08	21·9
Fifth " " "	18·600	19·725	39·08	38·88	—·20	22·3

Second Series.

Dose, 0·07 Gramme of Caffeine per Kilo.

	Hourly heat production.	Hourly heat dissipation.	RECTAL TEMPERATURE.			Mean room temperature during hour.
			Beginning of hour.	Ending of hour.	Gain or loss (+ or —).	
Experiment 6.—Dog, weight 7·143 kilos.						
Before caffeine.	18·068	20·125	39·57	39·21	—·36	21·8
First hour after caffeine	22·021	21·450	39·21	39·22	+·01	23·4
Second " " "	27·443	26·700	39·22	39·35	+·13	23·5
Third " " "	26·089	26·775	39·35	39·23	—·12	22·5
Fourth " " "	19·618	22·075	39·23	38·80	—·43	21·8
Fifth " " "	23·471	23·300	38·80	38·83	+·03	21·8
Experiment 7.—Young bitch, weight 11·904 kilos.						
Before caffeine.	25·227	22·275	38·88	39·19	+·31	22·0
First hour after caffeine	41·112	36·350	39·19	39·69	+·50	21·7
Second " " "	37·449	37·925	39·69	39·64	—·05	22·5
Third " " "	25·863	26·625	39·64	39·56	—·08	23·1
Fourth " " "	29·986	29·700	39·56	39·59	+·03	23·1
Fifth " " "	26·000	26·000	39·59	39·59	±·00	23·2
Experiment 8.—Spaniel, w'ght 9·627 kilos.						
Before caffeine.	20·878	24·575	39·23	38·75	—·48	19·9
First hour after caffeine	27·276	26·275	38·75	38·88	+·13	21·3
Second " " "	29·155	28·000	38·88	39·03	+·15	21·3
Third " " "	25·053	25·900	39·03	38·92	—·11	22·2
Fourth " " "	26·517	26·825	38·92	38·88	—·04	23·3
Fifth " " "	28·256	28·025	38·88	38·91	+·03	24·8
Experiment 9.—Dog, weight 8·276 kilos.						
Before caffeine.	22·002	24·650	39·09	38·69	—·40	23·7
First hour after caffeine	30·700	28·250	38·69	39·06	+·37	24·5
Second " " "	22·776	22·975	39·06	39·03	—·03	24·5
Third " " "	28·283	27·025	39·03	39·22	+·19	24·7
Fourth " " "	26·854	28·450	39·22	39·13	—·09	25·4
Fifth " " "	27·196	26·600	39·13	39·22	+·09	26·2
Experiment 10.—Dog, weight 10·660 kilos.						
Before caffeine.	23·652	32·852	38·85	37·90	—·95	21·7
First hour after caffeine	25·720	22·570	37·90	38·27	+·37	22·0
Second " " "	29·500	27·970	38·27	38·45	+·18	22·4
Third " " "	27·951	28·801	38·45	38·35	—·10	22·3
Fourth " " "	27·555	27·975	38·35	38·30	—·05	22·1
Fifth " " "	25·032	25·452	38·30	38·25	—·05	21·8

Third Series.

Dose, 0·105 Gramme of Caffeine per Kilo.

	Hourly heat production.	Hourly heat dissipation.	RECTAL TEMPERATURE.			Mean room temperature during hour.
			Beginning of hour.	Ending of hour.	Gain or loss (+ or —).	
Experiment 11.—Dog, weight 5·328 kilos.						
Before caffeine.	14·632	15·825	38·47	38·19	—·28	17·8
First hour after caffeine	24·860	20·600	38·19	39·19	+1·00	19·6
Second " " "	30·341	26·975	39·19	39·98	+0·79	22·4
Third " " "	34·289	34·800	39·98	39·86	—·12	24·8
Fourth " " "	30·561	32·750	39·86	39·44	—·42	22·8
Fifth " " "	27·346	29·050	39·44	39·04	—·40	24·0
Experiment 12.—Dog, weight 7·143 kilos.						
Before caffeine.	25·568	23·225	39·08	39·49	+·41	22·2
First hour after caffeine	27·132	25·875	39·49	39·71	+·22	23·2
Second " " "	28·300	27·500	39·71	39·85	+·14	24·6
Third " " "	29·182	29·925	39·85	39·72	—·13	24·3
Fourth " " "	27·522	27·750	39·72	39·68	—·04	24·5
Fifth " " "	28·128	28·900	39·68	39·72	+·04	24·7
Experiment 13.—Dog, weight 8 kilos.						
Before caffeine.	18·761	22·601	39·25	38·65	—·60	18·5
First hour after caffeine	25·800	22·600	38·65	39·15	+·50	18·3
Second " " "	41·202	41·522	39·15	39·10	—·05	18·7
Third " " "	34·911	30·431	39·10	39·80	+·70	19·2
Fourth " " "	26·993	30·833	39·80	39·20	—·60	19·7
Fifth " " "	20·360	22·600	39·20	38·85	—·35	21·5
Experiment 14.—Bitch, weight 7·143 kilos.						
Before caffeine.	17·172	17·800	38·79	38·68	—·11	23·1
First hour after caffeine	21·654	17·425	38·68	39·42	+·74	23·8
Second " " "	25·407	22·550	39·42	39·92	+·50	23·7
Third " " "	26·789	27·075	39·92	39·87	—·05	24·6
Fourth " " "	24·047	24·275	39·87	39·83	—·04	25·6
Fifth " " "	18·629	21·200	39·83	39·38	—·45	26·7
Experiment 15.—Bitch, weight 5·328 kilos.						
Before caffeine.	13·604	14·200	39·12	38·98	—·14	22·8
First hour after caffeine	18·235	13·975	38·98	39·98	+1·00	23·0
Second " " "	17·624	18·050	39·98	39·88	—·10	23·0
Third " " "	17·016	18·550	39·88	39·52	—·36	23·1
Fourth " " "	14·441	15·975	39·52	39·16	—·36	23·1
Fifth " " "	14·304	15·975	39·16	38·77	—·39	23·2

A comparison of these records with those obtained with normal animals (see University Medical Magazine, April, 1890) shows very clearly the absence of the remarkable variations which occur from hour to hour in the latter, and that, instead of a general tendency to a decline in the amount of heat evolved, there is invariably a decided increase. In all of the three series the essential changes are the same, only differing in degree depending upon the dose.

In the experiments of the *first* series, in every case heat production was increased after the injection of the caffeine, and remained above normal throughout the entire period of observation, the maximum increase which occurred in each experiment being, respectively, 56, 29, 49, 17, and 42 per cent., or a *mean* maximum increase of 38·6 per cent. In one experiment the maximum was observed during the second hour, in one during the third, in two during the fourth, and in one during the fifth. Heat dissipation in all was also increased, but the relation between the quantity produced and dissipated was very inconstant. In Experiments 1, 2, and 4, heat dissipation, as a whole, was in excess of heat production, and, as the maintenance of the bodily temperature depends upon the reciprocal relations between these functions, and as more heat was lost than produced, the animal's temperature declined. In Experiments 3 and 5 heat dissipation, as a whole, was less than heat production, so that the animal's temperature was increased.

In the experiments of the *second* series the heat processes are similarly but, as a rule, more positively affected, and the relations between the quantity of heat produced and dissipated decidedly of a more stable character. In these the maximum increase in heat production in each was 52, 63, 39, 39, and 25 per cent., respectively, or a *mean* maximum increase of 43·6 per cent. The maxima were observed in two during the first hour and three during the second. In all of them heat production was in excess of heat dissipation during the first hour after giving caffeine, and in three it continued in excess during the subsequent hour. More heat was then dissipated than produced; but, owing to the marked increase of production over dissipation during the early hours, the bodily temperature was so much increased that even the excess of dissipation during the later periods was not able to reduce the temperature to normal, except in Experiment 6, where it was subnormal during the last two hours.

In the experiments of the *third* series the effects on heat production and heat dissipation are further intensified, the maximum increase in each being 134, 14, 119, 56, and 34 per cent., or a *mean* maximum increase of 71·4 per cent. In one experiment the maximum increase occurred during the first hour, in one during the second, and in three during the third. In all, heat production was in excess of heat dissipation during the first hour after the caffeine, and in three continued in excess during the second hour. Heat dissipation then becomes greater, so that the animal's temperature gradually declines, although continuing above normal throughout the experiments with the exception of Experiment 15, in which it fell below normal 0·21° during the fifth hour.

These records, therefore, show that caffeine increases both heat production and heat dissipation; that during the early hours of experimentation heat production is in excess of heat dissipation, so that the bodily temperature is increased; that during the subsequent hours heat production falls below heat dissipation, but, as a rule, the excess of dissipation during these hours is not sufficient to make up for the excess of heat production during the early part of the experiments, consequently the animal's temperature generally remains above normal during the entire five hours after giving the caffeine; that the effect on heat production and heat dissipation is intensified by larger doses, the smallest dose causing a mean maximum increase of 38·6 per cent., the medium dose an increase of 43·6 per cent., and the largest dose an increase of 71·4 per cent. in heat production; that heat production and heat dissipation are affected to nearly the same extent, so that but little change in bodily temperature is observed; and, finally, that, as a whole, the alterations in the animal's temperature and heat production bear a close qualitative relation, rising and falling together.

In the first series, in but two experiments did a rise of temperature occur, but in the other series an increase was always observed; in the second series the average increase was 0·40°, and in the third series 0·93°. While these records can hardly be taken as representing the maximal and minimal changes in bodily temperature, they are in accord with the observations of Binz (Archiv f. exper. Path. u. Pharm., ix, S. 31), who found that small doses were without effect, that medium doses caused an increase of about 0·60°, and that larger doses, sufficient to produce well-defined symptoms of caffeine poisoning, induced a rise of from 1° to 1·5°.

These results, therefore, show beyond possible doubt that caffeine increases heat production and, as a corollary, increases destructive tissue metamorphosis. This being the case, how are we to explain the efficiency of coffee in supporting the system and enabling the performance of as much, or even more, work under conditions of restricted diet? It may be supposed, as already suggested, that the actual waste of energy is in some way diminished, as, for instance, by a lessened heat dissipation, the quantity of heat thus concerned becoming apparent in work; but this assumption is nullified in the facts just demonstrated that both heat production and heat dissipation are increased, and accordingly that the actual waste of energy was greater. There seems to be no other explanation than that the virtues of coffee in the wear and tear of active life are entirely subjective and depend upon a general excitation of the higher tissues, and chiefly upon its powerful exhilarant action on the mental processes. The assumed ability of coffee to replace food, or to increase the power for work without corresponding tissue destruction, is consequently entirely deceptive and the conditions produced by it are comparable to those observed at times in the insane, in hysteria, or in fright, where the individual may be capable of performing prodigious feats of strength and endurance, but, nevertheless, at the direct expense of his tissues.

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TRACHEAL OZÆNA.*

By G. B. HOPE, M. D.,
ATTENDING SURGEON TO THE METROPOLITAN THROAT HOSPITAL, ETC.

In the Journal of Laryngology for January there appeared a comprehensive article on the subject of Laryngotracheal Ozæna in which the author, reviewing the histories of six cases in his own practice, ventures to predict that with a more critical examination a relatively large number of similar conditions would be discovered. This prophecy has received a well-marked illustration in the person of a patient who has been under treatment at the Metropolitan Throat Hospital for nasal and naso-pharyngeal ozæna. Whether at her first presence at the hospital the disease had already included the trachea, and was overlooked in the consideration of the major symptoms described, is uncertain, although most probable. In the course of the early treatment, during which the nasal ozæna had been steadily diminishing, the tracheal affection, it would appear, began the more to attract the patient's own attention, and suggested a further investigation, with the result of confirming in the most distinctive manner the very explicit description of Dr. Luc in the article referred to:

In brief, the history records that the patient, an exceptionally robust woman of twenty-seven, presented herself some months since with the most exaggerated features pertaining to nasal ozæna. The disease had thus extended over a long period of years, and with a disposition toward a persistent increase in the amount and consistence of the secretion. At this time it might be said that, so far as the nasal condition was concerned, it could hardly have been more extreme; a complete cast of each nostril was removed in the shape of the distinctively colored crust, emitting the most intensely fœtid odor, and, as is usual in such cases, accompanied by a loss of the sense of smell and, to a considerable extent, of reflex irritability. In contradistinction to the accepted formula which insists on a well-marked atrophic condition as coexisting with ozæna, the lower turbinated were but slightly affected, while the middle presented such a decided hypertrophy as to make a partial removal with the snare advisable.

Notwithstanding the fact that for the first several weeks the patient was able to report only at irregular intervals, under disinfecting and stimulating applications a gradual improvement took place, which has now finally culminated in an almost complete relief from the offending secretion.

About two months subsequent to the date of the original examination attention was directed to a troublesome cough and a feeling of the greatest discomfort, amounting at times to a positive dyspnœa, referred to the tracheal region, and only relieved by the expectoration of an offensive and inspissated mucus. Inspection with the mirror showed a moderate catarrhal process of the larynx, as denoted by some slight congestion and surface thickening, but with no diminished secretion or disposition to the formation of crusts. In the trachea, however, below the cricoid, could be seen several irregularly outlined masses of a dark-green color, closely adhering to the lateral walls. That these were not the only points affected was demonstrated in the course of a spray inhalation, during which several extensive crusts of the same character were expelled while leaving in place those first observed. On after-occasions the degree and extent of these formations would be found to vary from a broad expanse covering the entire circumference exposed to view to a mere trace or stain spreading apparently by preference from a point between the tracheal rings.

All the clinical features in this case were so marked as to emphasize in some manner the opinion now generally entertained as to the particular specific nature of the disease, or at least they showed that there must be certain conditions present which are not intrinsically related to any other form of morbid affection of these tissues. The alternative issues regarding the ætiology of ozæna seem to depend on accepting the theory of the disease either as residing in the pathological state of the mucous membrane itself, and the exhibition of a secretion which intrinsically expresses itself in a disordered consistence, color, and odor; or else of concluding that, incidentally to some predisposing surface alteration, the mucous membrane becomes the seat of a definitive microbic infection from external influence, which induces a fermentative process with the recognized and characteristic conditions. For the present it must be confessed that no absolute ground can be taken in favor of either theory, although it would appear as if the weight of evidence might preponderate in a direction leaning toward a frank acceptation of the latter view. In the first place, the original observations of Löwenberg, which led up to the recognition of a bacterium of special form as invariably associated with the presence of the disease, and the confirmation of this appearance by a number of subsequent writers on the subject, with the analogy furnished in other determinative affections more or less allied, go far in themselves in pointing to the microbic origin as the most probable conclusion. The former idea that syphilis was the prime factor in the production of ozæna has now lost any particular force, as indeed it may be said to be rarely associated with it. The ulceration and necrosis of this, as of other diseases, are accompanied by an odor altogether dissimilar, as it occurs in the course of a simple process of putrefactive degeneration, and without the persistent character and degree of offensiveness which prevails in specific ozæna. Neither in the examination of a large number of patients suffering from mere atrophic rhinitis is a definitive ozæna by any means imperative, nor, in its interoccurrence, can it be said to be owing to more than a contributive element, in which the secretion furnishes a soil, perhaps, peculiarly adapted for the reception and cultivation of the germ necessary to its final production. Moreover, if, in the instance of the nasal affection, applications referred particularly toward antiseptic conditions will suffice to eradicate the disposition to crust-formations with its attending fœtid odor, while, so far as the eye can detect, the physical appearances of the tissues remain unaltered, there must exist a decided clinical evidence of a duality of causation. Even if such treatment is so slowly curative it must be remembered that, with the numerous accessory sinuses related to the nares, it is no simple matter, by either pigments or sprays, to reach all the surfaces which may share in furnishing the material of infection.

When the larynx and trachea become involved it is questionable if it is not in the course of an extension by contiguity, as it is held by practically a universal testimony to be preceded, or at least accompanied, by a similar condition in the nostrils or pharynx; and indeed this method of invasion would seem to offer the most natural process of contagion, in which the resistance of the tissue is worn away by the continuous presence and irritation of the morbid elements with which the disease is associated.

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* Read before the Society of the Alumni of Bellevue Hospital, February 5, 1890.

In the present instance the gross appearance of the masses expectorated does not altogether coincide with the term "crust" as it is commonly employed, inasmuch as the exposed surface indicates but little disposition to become dry or glazed, but retains very much of an even density throughout. The masses are also characterized by a peculiar elasticity which might not inappropriately be compared with that of rubber, and in odor possess a "punaisie" of the most intense description. A litmus test at the first examination showed a violent acid reaction, although later trials indicated either a neutral or but faintly acid formation. The common feature to a number of slide stainings, kindly prepared by Dr. Louis Waldstein, is a field crowded with bacteria, among which are found numerous examples of a diplococcus to whose agency the disease, as has been stated, is believed to stand in the light of a probable although as yet unproved result.

A second and more recent instance of the same affection, occurring in the practice of Dr. Fayette Smith, of Newark, serves to establish very much the objective features as related in the foregoing case:

The patient was a young lady, in otherwise perfect physical condition and enjoying the most favorable surroundings, who, for the past two years, notwithstanding conscientious and determined treatment at the hands of different practitioners directed toward an intranasal ozæna, had been steadily growing more and more embarrassed by the constant and increasing disposition to the formation of foul and inspissated crusts in the nostrils. At the time she came under observation there had been for some months a noticeable tendency to dyspnœa, a dry cough of a peculiarly severe and unsatisfying character, a huskiness increasing often to a complete aphonia, which would suddenly be removed on the expectoration of tenacious, greenish-colored scales of mucus of varying size. The symptoms had been indifferently ascribed to a bronchitis or a catarrhal laryngitis, but, curiously, without any thought of making sure of the local condition by a laryngoscopic inspection. Such an examination on the part of Dr. Smith at once revealed the cause and seat of the difficulty in the presence of a mass of partially dislodged secretion projecting upward between the vocal cords, with its broader attachment covering more or less of the entire circumference of the trachea. Furthermore, in spots upon the arytenoids and false bands were similar points either in process of formation or arrested in their expulsion from below. When, some two weeks later, the writer was afforded an opportunity of seeing the patient, a marked improvement had already occurred in both respiratory and vocal functions, although the ozænic crust, with its particular color, odor, and density, was present to a considerable extent in the subglottic region, forming an undoubted example of tracheal ozæna.

In view of the peculiar offensiveness of this affection, which not alone exhibits every disposition of a chronic nature to enlarge its boundaries so far as to provoke the most constant and distressing subjective symptoms, but also to lead to the possible results of a formidable mechanical obstruction to the respiration, a more general appreciation of the elements of the disease and a definite course of treatment for its elimination are of the first importance. In this connection it would be of interest to note whether with the subsidence of the ozænic process intercurrent in the nares the existing tracheal formation would not be found to be largely self-limited. However this may be, the fact remains that, in giving by far the larger share of attention to the nasal secretion, a rapid general improvement has resulted, which, aside from a comparatively more open surface, the trachea is placed at the disadvantage of allowing only an indifferent contact with medicinal agents, indicates, perhaps, that in the suggestion resides a more ready and distinctive element of success. Looking over the varied field of therapeutics as demonstrated from the clinical reports of cases, one can readily maintain that no other form of mucous-membrane disease has received so wide a range in the consideration of an efficient mode for relief. To such an extent has this been carried that from one source the extreme measure of removing as much as possible of the nasal secreting surface by the free use of the curette—a course of procedure which is not alone harsh to a degree even if the first object were crowned with success, but establishes a loss of function important as physiological—is mentioned only as an example of the straits to which even specialists in this department of practice find themselves driven in dealing with this intractable affection.

Some experience with peroxide of hydrogen as a topical application in faucial diphtheria prompted its employment in ozæna as a rational mode of reaching so far as possible what is understood to be the determining cause of the disease in the microbic infection.

While the results have in a sense been eminently satisfactory, the writer does not intend that it should be accepted that the peroxide solution furnishes a specific which will at once clear away all disposition to the formation of the putrid nasal secretion, but, so far as individual experience goes, no other method of treatment has so rapidly culminated in a condition in which all the prominent features of ozæna have been arrested, and, in cases of less extension or prolonged development, apparently a definite cure has been affected.

The method of treatment recommended consists in a free and somewhat forcible spray of the undiluted peroxide, producing a form of coagulation of the abnormal secretion which in turn should be swept aside by a cotton-carrier, and these steps repeated so long as the reaction occurs. The first contact with the solution is not altogether devoid of a degree of pain which, if desirable, might be obviated by a preliminary use of cocaine, but it has not been found of a sufficient intensity to stand at all in the way of its general employment, and, when compared with other accepted means of treatment, the remedy is under no disadvantage. In the complication of tracheal ozæna a steam atomization of the fifteen-volume peroxide, inhaled at a temperature not too high to destroy the property of the fluid, has been used in the hospital service, although in office practice the inhalation of the spray directly from the point of the atomizer would seem to be equally efficient, but requiring more time and care in the administration. The first principle of success lies in the road of a thoroughness in detail without which it is doubtful if anything better than a temporary and imperfect result can be expected.

THE CLAMP AND CAUTERY OPERATION FOR HÆMORRHOIDS.*

By BLAIR GIBBS, M. D.

My object in presenting this subject to-night is not that the procedure is particularly novel or original, but because it is practiced to such a slight extent in this country that its merits are by no means appreciated. Believing it to be by far the best operation in its general application to all varieties of internal hæmorrhoids, I now propose to describe its technique in some detail and to point out what I regard as its chief merits.

The instruments required are five in number—the pile-clamp, a Paquelin cautery, a speculum, a tenaculum forceps, and a pair of scissors.

The operation is simple. Anæsthetize the patient, put him or her in the lithotomy position, stretch the sphincters with the fingers so as to be able to secure room to work but without any idea of causing a temporary paralysis, and put in a speculum, so as to get a perfect view of the lower rectum. Having now determined upon the amount of tissue to be removed, the speculum may be thrown aside. In fact, I now seldom use it at all, as the fingers answer the purpose perfectly well. I generally begin on the pile nearest the posterior median line, so as not to be interfered with by the bleeding.

Now grasp the tumor with the forceps and draw it well down and out, and with the scissors loosen it from the margin of the skin, just as in the old ligature operation. In the groove thus made grasp the base of the pile with the clamp, and, while the enucleation is thus controlled, cut off the tumor, apply the cautery to the stump, and remove the clamp. There are two points here to be emphasized: In applying the clamp, especially where a large grip is necessary, include the tissue so as to leave the resulting scar placed longitudinally in the bowel, and, in cutting off the redundant tissue, do not fail to leave pedicle enough for a thorough cauterization. Deal with other piles in the same way, and the operation is complete. A simple dressing, consisting of a firm gauze or picked lint pad over the anus and a tight T-bandage, easily controls all hæmorrhage from the external scissors cuts.

This operation takes about two to four minutes, more or less, in my hands, although if there was any hurry it could be done in less time.

It is apparent from this description that the operation is identical with that of the ligature, except in the means of controlling hæmorrhage. In one the base of a vascular tumor is constricted by a tightly tied string, while in the other the open mouths of vessels are secured by an application of the actual cautery. In both the amount of tissue removed is the same, and in both the process of cicatrization gives the same ultimate result.

The question naturally arises, Has the clamp and cautery any advantages over the old and universally popular ligature? I think it has, and I base my preference entirely on experience, apart from any theoretical considerations. The radical cure of varicose conditions, whether in the rectum or in any other locality, can be accomplished on well-known surgical principles. Varicose veins of the leg are best treated by multiple ligation or by complete resection of varices. The operations for varicocele all aim at the more or less complete obliteration of the diseased veins of the spermatic cord, and varicose veins of the rectum differ only in locality. The rational surgical treatment is removal more or less complete. All operations are but different methods of reaching a desired result, and the best is that one which cures with the least amount of danger, pain, and delay.

Of the various dangerous complications, the most frequent is undoubtedly hæmorrhage. I speak of secondary hæmorrhage, coming on any time during the first week, while the sloughs are separating—bleeding, sudden, profuse, concealed, but always serious in the extreme. I have the records of upward of two hundred cases of the clamp and cautery without a single instance of bleeding.

Right here let me again urge the thorough cauterization of the stump at the time of operation, for, as hæmorrhage is the first serious complication to be feared, every precaution should be taken to avoid it.

Unquestionably the same security can be obtained from the ligature when carefully applied, but that fact in no wise militates against the efficiency of the cautery as a hæmostatic.

The second grave complication that may occur is septic infection, showing itself primarily in phlebitis, and subsequently developing any or all of the phenomena of pyæmia. Of course an occurrence such as this is always within the range of possibilities in any operation—certainly in such procedures as involve the obliteration of masses of veins, and I know of no precautions that will absolutely exclude all danger of this accident. In rectal surgery thorough and complete asepticism is not possible, on account of the normal functions of the organ. As a matter of fact, the clamp and cautery operation shows up quite brilliantly in its comparative immunity from septic complications. I myself have never seen it, and in all the cases in my immediate reach there has been no such instance.

The principal advocates of the cautery, here and abroad, all strongly insist that no other method has given such results. Theoretically this is to be expected. Certainly thorough cauterization with a red-hot iron of all cut surfaces inside of the sphincter is very unlikely to convey infection.

I have dwelt on the questions of hæmorrhage and infection because of their genuine importance. They are not likely to occur except from carelessness, but must always be borne in mind as possibilities. In my own fifteen cases and in the two hundred others upon which I am writing there has been no such trouble; so I think that I am justified in speaking with confidence.

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* Read before the Society of the Alumni of Bellevue Hospital, February 5, 1890.

There are, however, a group of exceedingly annoying symptoms that are likely to follow all rectal operations. I speak of pain and various reflexes dependent on it. Spasm of the sphincters and levator ani are the cause of nine tenths of the distress accompanying rectal lesions, and, curiously enough, the size of the lesion bears no relation to the degree of pain. However, the question at issue—whether the clamp and cautery operation is less liable to be followed by these disorders—is a matter of experience. In my own cases I can say, without hesitation, that there has been little or none. Not a single patient has been given more than a quarter of a grain of morphine all told, and most of them got none, for the simple reason that there has been no reason for using it. The usual history of a case after operation is about as follows:

In five or six hours the perineal pad is removed, and, if there is any soreness, hot applications are applied. The patient is allowed to get out of bed to pass water as soon as the desire shows itself. After that no dressing is required unless there is an external wound from the original scissors cut, and in that case a loose pad of absorbent gauze is sufficient. Often hot applications to the perinæum are very soothing, and in that way the patient generally obtains a good night's sleep without the use of anodynes. Suppositories of iodoform, belladonna, etc., serve very well to amuse the patient, but I doubt their usefulness, and, as a rule, dispense with them entirely. The one point of importance in the after-treatment is the early opening of the bowels. My rule is to give a laxative on the second night, so as to get a free evacuation forty-eight hours after operating. This occasionally causes more or less pain for an hour or two, but if put off four or five days is far more painful, and may even require the aid of an ether cone and the handle of a spoon. Keeping the bowels open from the beginning prevents much congestion around the wounds and renders the patient comfortable twenty-three out of the twenty-four hours. One is frequently asked, either by the patient or by the family physician, "When is the pain going to begin?" and, as a rule, it does not begin.

Rarely indeed is it necessary to use a catheter except in cases of cystitis from enlarged prostate, urethral stricture, etc., and in those cases retention occurs from very slight causes.

So far as diet is concerned I make little or no change, unless for special reasons, but keep the patient in bed as long as possible, which generally means till the third or fourth day.

Sloughs separate entirely by the end of the first week, and then convalescence has begun. In an average case the ulcers are about healed in three weeks, but, unless the patient has been kept very quiet during that period, complete cicatrization may take much longer of course.

Undue contraction of the anal orifice may follow this operation as from any other, and for the same reason—the removal of too much tissue. This, however, is the fault of the operator alone. There is one simple rule by which it can always be obviated: Put on the clamp in such a way as to leave a band of mucous membrane half an inch or so in width between the several grips. In other words, use the same care in this as in any other operation.

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GONORRHŒA IN A BROTHER AND SISTER,
AGED, RESPECTIVELY, SIX AND EIGHT YEARS.*

By F. M. CRANDALL, M. D.,
INSTRUCTOR IN DISEASES OF CHILDREN IN THE NEW YORK POLYCLINIC.

M. N., a boy six years of age, was brought to the Polyclinic on February 6th with a history of a urethral discharge dating from about Christmas. On examination, the prepuce was found to be swollen and inflamed, and there was a free flow of pus from the urethra. Microscopical examination of the pus revealed numbers of gonococci of typical appearance and grouping.

Under treatment by an alkaline diuretic and an injection, there was a marked decrease in the amount of pus, but a slight gleety discharge still continues. Recent microscopical examinations show but a very small number of gonococci.

On February 11th (five days after the first visit of the boy) his sister, aged eight years, was brought, with the history of a vaginal discharge discovered by the mother about January 28th. Examination showed a profuse purulent discharge from the vagina, with considerable redness and swelling of the vulva. Examination of this pus also revealed gonococci in great abundance.

Vaginal injections of sublimate solution (1 to 5,000) were followed by rapid improvement and complete recovery by March 1st.

The origin of the disease is somewhat uncertain. The truth probably is that the boy acquired it from an uncle with whom he slept, and who is known to have had a urethral discharge. The sister then acquired it from him, for intercourse is acknowledged by both parties.

Subsequently, however, the boy, following the example of an illustrious ancestor, alleged that the woman had beguiled him and was the author of his woe, that his sister had been infected by a young man who had been in the family, and that his own disease had been acquired from her. It is at least quite certain that the gonococci in the two cases originated from the same source.

The boy, it may be added, is strong, active, and rather large for his age. He is precocious, exceedingly shrewd, and evidently intelligent upon matters which boys of his age should know nothing about. It is a matter of considerable interest in such cases to know how much is due to inherited tendency and how much to vile company and vicious teaching.

The Presidency of the City Board of Health.—The New York County Medical Association has passed the following resolution:

Resolved, That the New York County Medical Association earnestly and respectfully urge the members of the Legislature now in session to give their influence and votes for the passage of the bill, now before the House, having for its object the repeal of the law by which a physician is made ineligible for the position of president of the board of health of New York city.

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* Read before the Section in Pædiatrics of the New York Academy of Medicine, March 13, 1890, with a demonstration of the gonococci found.

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INSOMNIA AMONG CHILDREN.

Sleepless children have a champion in Dr. Jules Simon, who takes up their cause in the pages of the Revue mensuelle des maladies de l'enfance for March, 1890. The problem of too-wakeful childhood, he says, taxes the ingenuity of the physician to the utmost, arising as it does from many causes, and constituting a prominent symptom of diverse pathological conditions. The new baby's sleep is intermittent. Every two or three hours it wakens, because of hunger or thirst. Even night sleep is not continuous, though more profound and of longer duration. If the infant sleeps too much or too little, something is wrong. Insomnia is a marked symptom of early syphilis in children, as characteristic as the coryza and rash, and normal sleep returns only when sufficient mercury has been absorbed and assimilated. Indigestion is a potent cause of wakefulness among the innocent. These are often fed too frequently and with improper food. Medicine is useless. Hygienic nourishment is the only hypnotic that meets the indications. There is, however, the hyperæsthetic baby, always alert, with eyes forever open, and who can only be quieted by a good dose of something. This alarming infant is essentially a nineteenth-century outcome.

The little sufferers from beginning hip-joint disease sleep no more till the leg is immobilized, codeine and chloral affording only temporary relief. The insomnia of broncho-pneumonia in children is best relieved by the application of a fly-blister, a remedy that makes the ignorant laugh. At once respiration becomes less frequent, oppression diminishes, and the little one sleeps. The most varied measures bring about this consummation devoutly to be wished, under different circumstances. And any agent will fail when it is not indicated, as it does everywhere in the practice of medicine.

Ætiology must ever be kept in view. The causes of childish insomnia are legion. Among the new-born, Dr. Simon places dyspepsia first on the list, and acute cerebral congestion—due to some kind of exposure—next. A beginning meningitis, cerebral tumors, and hydrocephalus have wakefulness as a symptom. In later childhood, headache produces the same result—the headache of growth and overwork. Many of these headaches are really manifestations of latent rheumatism. The neuroses of childhood, such as hysteria, chorea, and epilepsy, produce wakefulness. This is sometimes the only evidence of epilepsy, and expresses itself in a peculiar way. The child goes to bed well, wakens with a cry from profound slumber, sits up suddenly in bed, and then falls back again, either to sleep after a short interval or to lie awake weak and prostrated. Sleepless or wakeful chorea is a serious affair. Rheumatic conjunctivitis, earache, catarrh extending into the frontal sinuses, urticaria, itch, etc., are frequent and obvious reasons for sleeplessness. Not so hernia or displaced testicle. The rarity of these conditions make them overlooked, though they exist oftener than is supposed, the symptoms they give rise to being referred to the digestive tract or the nervous system. Naturally, the whole range of nervines and digestive tonics fails to do what a simple bandage can accomplish — bring about normal sleep. The exanthematous fevers have sleeplessness during some part of their course as an accompaniment. So also malarial fevers, especially of the irregular type, when the child wakes suddenly in the night with pain in the head and vomiting, without fever or chill. Quinine cures this kind of sleeplessness. Unrecognized albuminuria is another reason why repose is disturbed; and this disturbance may precede uræmia. The diphtheritic patient in whom the disease has murdered sleep is in the gravest danger. Among children of six or seven, wakefulness is one of the protean expressions of lithæmia. It is often accompanied by intense headache and profuse perspiration. And last, but not least, the indiscretions of the mother or wet-nurse are potent causes of the wakefulness of early infancy. Alcohol, tea, coffee, salted foods, condiments, and spiced meats may act as poisons to the baby when they pass into the milk that is its food. Strong odors, good and bad, may also keep little ones awake, for they are powerful excitants in the young.

The most careful regulation of a child's life, the most patient inquiry into the details of its every-day career, are matters worthy of the best physician's learning and skill. Grown persons are badly spoiled as a rule, and not much can be done but patch them up and let them go; but with children the case is more hopeful.

TRANSPLANTATION OF THE THYREOID.

That the thyreoid body exercises some powerful and essential function can not be for an instant doubted in view of the apathetic mental state, ending in almost complete imbecility, that follows its removal in man or animals, marked by tremors, convulsions, subnormal temperature, and a general constitutional degeneracy similar to that of myxœdema and cretinism. The idea has suggested itself to certain physiologists that the thyreoid when absent in man might appropriately be replaced by thyreoids from healthy animals. Attention is called to certain results that have been thus obtained, in a paper by Dr. L. H. Petit, in the Union médicale for March 15, 1890. Horsley and Eiselberg have experimented with this zooplastic grafting, which in Horsley's hands prevented the appearance of myxœdema after thyreoidectomy. Following out this hint, Lannelongue came to believe in the feasibility of ingrafting thyreoids in cases of congenital absence of the gland, especially when, in consequence of this imperfection, there was arrest of physical or mental development. Symptoms of myxœdema and the condition of cretinism as described by Bourneville were present in a fourteen-year-old girl at the Hôpital Rousseau. Though an operation was decided upon, myxœdematous tumors about the neck interfered with placing the new thyreoid in its usual locality. A spot in the thorax, above the right breast, was chosen as an appropriate habitat for the thyreoid of a yearling sheep. This was slipped in among the tissues, which, after the first incision, were separated, rather than cut, by means of a blunt spatula, to insure bloodlessness as far as possible. The sheep's thyreoid was first slightly denuded, the capsule being snipped off with scissors, and the body plunged quickly into the cavity, to the depth of three centimetres. Several sutures closed the opening. The operation was aseptic but not antiseptic. There was no rise of temperature. The dressings were changed in a week, and the stitches taken out. Union was perfect, without any sign of suppuration.

The questions arise as to whether the transplanted body remains a veritable thyreoid, carrying on its normal function; and, if it does, as to whether it can grow or eventually becomes absorbed. Time alone can settle these questions. The gland's superficial situation allows of careful observation of all possible changes. Chauveau thinks the grafted thyreoid can scarcely hold its own, and cites as a proof of his idea the ultimate absorption of the transplanted testicles of sheep, no matter how deeply imbedded in connective tissue, the vascular communication between these bodies and the surrounding parts being too slight to maintain independent life. And, aside from this, it is the tendency always of transplanted tissue to become absorbed. However, it is impossible to predict what may happen to a thyreiod, which differs greatly from a testicle or a spleen. In Eiselberg's case the transplanted thyreoid, when anatomically examined ultimately, was found to have performed its function. Should this method of supplying mental and physical deficiencies due to absent thyreoids eventually prevail, it will be, says Chauveau, due entirely to the surgical skill that Lannelongue joins to logical judgment.

MINOR PARAGRAPHS.

THE ANALGESIC ACTION OF EXALGINE.

Exalgine is one of the most important of the newer compounds. If present indications persist, this drug will survive not a few of its rivals for popularity. This opinion, which has led us to keep a close watch upon the reports of those who have made trial of the drug, has been materially strengthened by a clinical lecture by Dr. Thomas R. Fraser, of Edinburgh, published in the British Medical Journal for February 15th. Dr. Fraser is the professor of materia medica in the University of Edinburgh, and is favorably known for his studies of the African ordeal poisons. He presents a table of eighty-eight separate administrations of exalgine to twenty-one patients, which gave relief in sixty-seven instances, and in twenty-one afforded no benefit. In cancer of the liver, aneurysm of the aorta, and lumbar abscess there were nine trials, two, four, and three each in the order named, with nine failures. In other affections, deemed suitable for trial, there were seventy-nine administrations, with twelve failures to obtain relief; about sixty of these may be classed as neuralgic, while twenty were rheumatic or carcinomatous, with one or two exceptions. The condition of some of the patients was not one in which the pain could fairly be expected to be dissipated save by a drug that would produce general narcotism. This is not the property of exalgine. It is not an overpowering analgesic, but it has the enormous advantage of being free from the disturbances and inconveniences that are associated with the action of nearly all other pain-subduing drugs, and from the dangers inseparable from the use of the more powerful of them. The doses given ranged from half a grain to four grains; one-grain doses were frequently followed by relief, lasting from two to twelve hours, making itself felt sometimes in fifteen minutes and sometimes requiring forty minutes. The largest quantity given in twenty-four hours was fourteen grains, and it seemed not to be followed by any disagreeable, much less dangerous, effect. The majority of the persons experimented upon in this series were inmates of the hospital.

THE URINE IN INFLUENZA.

The subject of the urine in influenza has received some attention, even on this side of the Atlantic. Quite early in the season the apothecary of one of the New York hospitals made the statement that the urine in epidemic influenza was diminished, sometimes suppressed, and invariably of a high specific gravity not warranted by the degree of fever. In La médecine moderne for February 20th appears what is perhaps the first thorough exposition of the subject. The author of the paper, a chemist, M. E. Gautrelet, records some interesting observations and draws quite rational conclusions. Whatever theory the medical profession may adopt in regard to the nature of the recent epidemic, the clinical facts resolve themselves into three distinct classes: 1. Congestions (hepatic, pulmonary, renal, splenic, spinal, cerebral, ocular, etc.). 2. Neurotic pain (general), or neuralgic pain that may be diffuse or local. 3. Paresis or paralyses (cardiac, pulmonary, of the lower limbs, etc.). Urinary analysis during the late epidemic revealed the fact that the urine of patients suffering from the grippe was diminished in quantity, that it was increased in acidity, and that it invariably contained indican. The author takes the ground that the physiological characteristic of epidemic influenza is a pronounced organic superacidity. And he goes on to state that the superacid diathesis, otherwise known as arthritism or the disease of retarded nutrition, and also called the congestive diathesis, always presents evidences of congestion. Thus the sudden congestions in epidemic influenza are in no sense surprising, in view of the physiological characteristic—superacidity. The late epidemic presented the following urological manifestations: In the generality of cases, considerable diminution in volume, extraordinary increase in acidity, notable diminution in waste products, and the presence of indican. In certain diabetics there was diminution or suppression of the sugar in the urine, which was replaced by oxybutyric acid.

PAROXYSMAL RUNNING IN CHILDREN.

The Boston Medical and Surgical Journal for March 20th gives Dr. William W. Bullard's paper upon this subject. Paroxysmal running is essentially a morbid phenomenon of the irregularly periodic, explosive sort, suggesting cerebral excitation, and in no way connected with sleep. The running may be in a straight line, in large circles, or irregular, but is dependent on some idea or hallucination. Bourneville and Bricon have collected cases of this kind that were epileptic, and relate some in which procursion occurred in connection with chorea. Dana gives a case of procursion in which the diagnosis was that of hysteria with chorea. Roughly speaking, there are two types: The first, associated with such diseases as epilepsy and mental derangement; the second, associated with chorea or hysteria, or occurring by itself as the only prominent manifestation of a temporary psychoneurosis. Three forms of attacks of procursion in epilepsy are considered: (*a*) the simple form of straight running, apparently automatic, with apparent loss of consciousness; (*b*) a form of purposive running, more or less unconscious, due to some conception or idea which may or may not rise to the level of consciousness; and (*c*) a form of purposive procursion of longer duration than either of the preceding and due to temporary systematized delusions and hallucinations. This latter form is undoubtedly closely connected with some of the forms of paroxysmal running occurring in those suffering from mental disease.

THE VOMITING OF PREGNANCY.

The Medical Age for February 5th, quoting from the Revista de Ciencias Médicas de Barcelona, has in substance the following: Three organs concur in producing the vomiting of pregnancy. These are the uterus, which is at once the seat of pregnancy and the source of special excitation to other organs; the stomach, which responds in an exaggerated manner to the uterine stimulus; and the nervous system, which transmits excitation to distant parts. To combat the vomiting effectually, complex treatment directed to the three sources of the disorder is necessary; and to this end these fundamental indications must be fulfilled: first, to calm the morbid uterine excitement by correcting abnormal conditions that give rise to it. The most satisfactory agents for this purpose are cocaine, belladonna, morphine, hot vaginal injections, and cauterization or even dilatation of the cervix. The second measure is to diminish or repress the exaggeration of reflex impressions by the use of chloral, bromides, refrigeration, or cauterization of the spinal region. And the third indication is to combat the intolerance of the stomach, its local irritation and erethism. A strict diet is of absolute necessity. The stomach must be spared as much labor as possible, and the work of digestion thrown upon the intestinal tract. Sour drinks of every kind, wine, the juice of oranges or lemons, grapes, etc., are interdicted. Ice, alkaline mineral waters, together with counter-irritants—epispastics to the epigastric region—and laxatives to regulate the intestinal functions, are in order.

IOWA PHYSICIANS AS PURVEYORS OF WHISKY.

Commenting on the pharmacy bill lately passed by the Iowa Legislature, a Des Moines correspondent of one of the New York newspapers says: "The latter law contains a provision that will make whisky freer in Iowa than it has been under prohibition. It confers upon physicians the right to dispense liquor and places upon them no restraint whatever. They do not need a permit, like the druggists, nor is there any supervision of their manner of prescribing in the sales they make. There are about five thousand doctors in the State, and the demand for diplomas is likely to increase to an unprecedented extent, as the field for the exercise of dispensory [*sic*] talent opened out by this latest freak of prohibitory legislation is a broad one." This is a plain intimation that our brethren in Iowa are ready to turn their consulting-rooms into gin-mills—an intimation that is slanderous in the extreme. Neither in Iowa nor in any other State of the Union will the regular medical profession ever minister to the degraded appetite of the sot.

TYPHO-MALARIAL FEVER.

Since 1862, when this term was introduced into medical nomenclature by the late Surgeon Joseph Janvier Woodward, of the army, there has been much discussion regarding the utility of retaining it. At the meeting of the International Medical Congress in 1876, in an exhaustive paper on the subject, the author of the term defined it as not denoting "a specific or distinct type of disease, but . . . conveniently applied to the compound forms of fever which result from the combined influence of the causes of malarious fevers and of typhoid fever." This definition has been accepted, and in the nomenclature of the Royal College of Physicians the term is defined as denoting a hybrid disease.

While some of our foremost clinicians have recognized such fevers, and written about them in their published works, many physicians have denied the existence of such a disease, while others—especially in the Mississippi Valley—have used the term to describe an asthenic form of malarial fever, in which there was no lesion of the solitary glands or of Peyer's patches, and consequently no enteric fever.

Elsewhere in this issue we print Dr. Kinyoun's interesting report on "entero-malarial fever," from the Marine-Hospital Bureau's Abstract of Sanitary Reports. From a bacteriological point of view, Dr. Kinyoun's observations seem to be the first to have been published in regard to this subject, and further investigation of the same sort is very desirable.

A REMEDY FOR PALPITATION.

In the Revue générale de clinique et de thérapeutique for March 19th, Dr. Gingeot suggests as a valuable remedy for palpitation—one that has proved serviceable to him—the application of cold to the precordial region. Attention must be paid to the method of applying cold. The simplest plan of all is to apply a wet sponge over the region of the heart in the morning before dressing. At night, when in bed, the patient or an assistant may put a cold compress over the heart, well covered with dry bandages, to retain moisture and prevent any wetting of the clothing. When this compress is warm, the patient may remove it, and will probably fall asleep. There are objections to the ice-bag, one being the condensation of insensible perspiration upon the surface of the skin. The ether-spray is a simple and convenient method of refrigeration. With proper instruction as to necessary precautions in the use of ether, the patient can apply cold in this way at any hour of the day or night. Palpitation of purely nervous origin seldom fails to be greatly benefited by the application of cold; and a certain success often follows its use in cases of palpitation due to organic disease. Equalizing the heart's action will often prevent an increase in its size. It is also useful in aneurysm and passive dilatation.

CHLOROFORM IN THE ALBUMINURIA OF PREGNANCY.

In the course of some remarks before the Georgia Medical Association, at its last annual meeting, held at Brunswick on the 16th, 17th, and 18th inst., Dr. A. W. Griggs, of West Point, stated that he was in the habit of administering chloroform in doses of from twelve to twenty drops in sweetened water, four times daily, in cases of pregnant women in whose urine there was a great amount of albumin, and who had general anasarca. The result was, almost invariably, a marked diminution of the albumin and subsidence of the anasarca. He also believed that the occurrence of puerperal eclampsia was prevented. This practice is said to have originated with Dr. H. V. M. Miller, of Atlanta, and to have been in common use in that city for the past twenty-five years.

THE FATHER OF OVARIOTOMY.

The British Medical Journal presents its readers with a woodcut portraying the old home and consulting-room of Dr.

Ephraim McDowell, and the little operating-room where the first ovariotomy was performed. The photograph from which the woodcut was taken is the property of Sir Spencer Wells, sent to him by Dr. Dunlap, of Danville, Ky., in recognition of his appreciation of the character of the first ovariotomist. Dr. Dunlap laments that the changes that have taken place of late years have put the old home of McDowell into such a condition of dilapidation and disrepute that only the worst elements in his community will consent to occupy it. He says "it is now the haunt of thieves and law-breakers." Before very long there will be nothing left of it worthy to be looked upon save the photograph and its reproductions. The journal further quotes from Sir Spencer Wells's own words, used by him in a course of lectures before the Royal College of Surgeons in 1878, as a tribute to the surgical ability of the intrepid Kentuckian and as a full warrant for the title, awarded him by his friends, of "the father of ovariotomy."

THE INHERITANCE OF ACQUIRED DEFORMITIES.

The Mercredi médical for March 5th quotes M. Dupuy upon this subject. Weissmann, in his treatise, denies the inheritance of acquired deformities, calling attention to the fact that cutting off the tail of many animals has not made their descendants tailless. Brown-Séquard has found, however, that lesions of the sympathetic among animals produce hereditary defects in the offspring. Dupuy has found structural changes resulting from destruction of the cervical ganglia even as late as the seventh generation. The descendants of animals that have been operated upon present, together with ocular difficulties, a remarkable asymmetry of the cerebral hemispheres.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 22, 1890:

DISEASES.	Week ending Apr. 15.		Week ending Apr. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	13	4	9	2
Scarlet fever	87	3	95	5
Cerebro-spinal meningitis	3	4	3	2
Measles	322	18	330	35
Diphtheria	94	25	110	34
Varicella	7	0	17	0

The Journey to Berlin.—Messrs. Peter Wright & Sons, of No. 6 Bowling Green, New York, the agents of the Red Star Line of steamships, have issued the following circular:

"At the request of a number of prominent physicians and patrons of the company, the Red Star Line has decided to make special rates by certain steamers for physicians and members of their families who desire to attend the Medical Congress, which meets at Berlin, August 4th. The steamship Rhynland is appointed to sail from New York for Antwerp, July 16th, and the steamship Belgenland from Philadelphia for Antwerp on the same day. For these sailings the special rate, as mentioned above, will be from $45 to $100, according to the accommodations selected. To passengers taking round-trip tickets there will be a reduction in the price of passage each way of about ten per cent.; and another great advantage is the fact that the return ticket will be made good by either the Red Star Line from Antwerp, or the Inman Line from Liverpool. Passengers who wish to visit both England and the Continent are thus enabled to get a reduction for round-trip tickets without the expense and discomfort of recrossing the Channel. The railroad journey from Antwerp to Berlin occupies about sixteen hours, and the fare is: First-class, the equivalent of from $16 to $19, according to route. Second-class, $12 to $14."

The University of Trinity College, Toronto.—The English medical journals have discovered that the above-named chartered institution has been attempting to sell, through an agency in London, its degrees *in absentia*. The traffic in diplomas has hitherto been limited to those in music and in medicine. These diplomas have been advertised to be sold at eighty dollars each. This institution should not be mistaken for the University of Toronto, which recently suffered so grievously from the destruction of its principal buildings by fire.

The New York Physicians' Mutual Aid Association.—It is announced that the membership has so increased that the trustees are now enabled to pay $700 on the death of a member. At the present death-rate the annual cost of membership is estimated at about $11.

The Chicago Polyclinic.—Dr. Nicholas Senn and Dr. Christian Fenger have been elected professors of surgery. In addition to the clinical work, they will give a special course in abdominal surgery twice a year.

A New Journal of Pædiatrics, entitled Der Kinderarzt, has appeared in Germany under the editorial charge of Dr. Sonnenberger. It is published by Hauser, of Berlin and Leipsic, and will be issued monthly.

Operations on the Prostate.—Dr. William T. Belfield, No. 612 Opera-House Building, Chicago, respectfully solicits information concerning unpublished cases of operations upon the prostate, especially for the relief of the so-called hypertrophy of the organ.

The West End Medical Society.—At the next meeting, this (Saturday) evening, Dr. E. J. Ware will read a paper on Typhoid Fever, with an Analysis of Fifty-one Cases.

Changes of Address.—Dr. F. Irving Disbrow, to No. 102 West Ninety-fourth Street; Dr. Carl Koller, to No. 18 East Fifty-eighth Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 13 to April 19, 1890:*

Cleary, Peter J. A., Major and Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Wingate, New Mexico, and will report in person to the commanding officer, Mount Vernon Barracks, Alabama, for duty at that station, and by letter to the commanding general, Division of the Atlantic. Par. 6, S. O. 90, A. G. O., Washington, April 17, 1890.

Matthews, Washington, Major and Surgeon, is, by direction of the Secretary of War, relieved from duty in the Surgeon-General's office, this city, and will report in person to the commanding officer, Fort Wingate, New Mexico, for duty at that station. Par. 6, S. O. 90, A. G. O., Washington, April 17, 1890.

Stephenson, William, Captain and Assistant Surgeon. By direction of the Acting Secretary of War, so much of Paragraph 2, S. O. 83, A. G. O., April 9, 1890, from this office, as directs his transfer from Fort Verde, Arizona, to David's Island, New York, is so amended as to substitute the words Columbus Barracks, Ohio, in place of David's Island. Par. 1, S. O. 89, A. G. O., Washington, D. C., April 16, 1890.

Middleton, Passmore, Major and Surgeon. Leave of absence for two months, on surgeon's certificate of disability, is hereby granted (St. Francis Barracks, Florida). Par. 1, S. O. 85, Headquarters Division of the Atlantic, April 12, 1890.

Brown, Paul R., Captain and Assistant Surgeon, now at the Army and Navy General Hospital, Hot Springs, Arkansas, is, by direction of the Secretary of War, relieved from station at Fort Thomas, Arizona, and will report in person to the commanding officer, Little Rock Barracks, Arkansas, for duty at that post, reporting by letter to the commanding general, Department of the Missouri. Par. 3, S. O. 84, A. G. O., April 10, 1890.

Baily, Joseph C., Lieutenant-Colonel and Assistant Medical Purveyor, is, by direction of the Secretary of War, granted leave of absence for two months, on surgeon's certificate of disability, with authority for his admission to the Army and Navy General Hospital, Hot Springs, Arkansas, for treatment therein. Par. 10, S. O. 85, A. G. O., April 11, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending April 12, 1890:*

Beyer, H. G., Passed Assistant Surgeon. Ordered to the U. S. Steamer Yantic.

McCarty, Rufus H., Passed Assistant Surgeon, died April 12th, with pneumonia, on the U. S. Steamer Yantic, at Key West, Fla.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending April 5, 1890:*

Bailhache, P. H., Surgeon. To represent Marine-Hospital Service at meeting of California State Board of Health. April 4, 1890.

Wyman, Walter, Surgeon. To proceed to Wilmington, Del., on special duty. March 27, 1890.

Carrington, P. M., Passed Assistant Surgeon. Granted leave of absence for thirty days on account of sickness. March 28, 1890.

Pettus, W. J., Passed Assistant Surgeon. Granted leave of absence for sixty days, with permission to go abroad. April 2, 1890.

Heath, F. C., Assistant Surgeon. To rejoin station, Detroit, when relieved at Cleveland. April 3, 1890.

Kinyoun, J. J., Assistant Surgeon. To proceed to Wilmington, Del., on special duty. March 28, 1890.

Stoner, J. B., Assistant Surgeon. Relieved from special duty on floating hospital Stevens, and ordered to assume command of the service at Pittsburgh, Pa. March 28 and April 4, 1890.

Condict, A. W., Assistant Surgeon. To proceed to Cleveland, Ohio, for temporary duty. April 2, 1890.

Guitéras, G. M., Assistant Surgeon. When relieved at Pittsburgh, Pa., to proceed to Marine Hospital, New York, for duty. April 3, 1890.

(*Omitted from previous report.*)

Pettus, W. J., Passed Assistant Surgeon. Promoted, and commissioned Passed Assistant Surgeon by the President. February 26, 1890.

Society Meetings for the Coming Week:

Tuesday, *April 29th:* Boston Society of Medical Sciences (private).

Wednesday, *April 30th:* South Carolina Medical Association (first day—Laurens); Auburn, N. Y., City Medical Association; Berkshire, Mass. (annual—Pittsfield), and Middlesex North, Mass. (annual—Lowell), District Medical Societies.

Thursday, *May 1st:* South Carolina Medical Association (second day); New York Academy of Medicine; Metropolitan Medical Society (private); Society of Physicians of the Village of Canandaigua; Medical Society of the County of Orleans (semi-annual—Albion), N. Y.; Ocean, N. J., County Medical Society (Tom's River); Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *May 2d:* South Carolina Medical Association (third day); Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *May 3d:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); West End Medical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

THE TREATMENT OF YELLOW FEVER.

Jacksonville, Fla., *April 16, 1890.*

To the Editor of the New York Medical Journal:

Sir: Having just read the Annual Report of the Supervising Surgeon-General, Dr. Hamilton, for 1889, I noticed with peculiar satisfaction the indorsement by Dr. Guitéras of the treatment of yellow fever by Dr. Faget.

Dr. Guitéras said: "Without attempting to discuss the theories of treatment advanced by Dr. Faget in another portion of this publication, I find very little to add to the valuable instructions there given. . . . The truth is that in the majority of cases there is no indication for treatment in the first days of the disease." And Dr. Faget said: "The general plan of treatment, in my opinion, should be: make your patient comfortable." This is so completely in accord with my views that I ask permission to direct especial attention to the opinions of these men, who may be regarded as authorities upon the subject.

In an article published in the Charleston Medical Journal for July, 1874, I said: "Active medical treatment [of yellow fever] is worse than useless—it is hurtful. Drugs have no influence upon the disease, either to arrest or to cure it. When I myself was sick with the disease in 1853 I would not take a dose of medicine. . . . Were I called upon to give what I consider to be the best 'plan' of treatment of yellow fever, I could do it in a word, viz., nursing, good nursing—that is, make your patient comfortable."

Nor are results, actual or comparative, unfavorable to the gentler method of treating yellow fever. During the epidemic of Jacksonville (1888) I treated two hundred and five cases with a loss of eleven; and in not a case were my services needed beyond the eighth day. Not only were active medicines withheld, but the comfort of patients was consulted in the matter of covering. Generally, when heat was complained of, a sheet was the only covering, to which addition was made only at the request of the patient.

Accidentally, but authoritatively, I recently learned facts which reflect light upon the question of the comparative amount of drugs administered by different physicians during our late epidemic. The bills of two bank clerks for medicine during an illness, in each case of seven days with recovery, was, for each, $2.50. The bill for medicine for an official of one of the banks, who died on the fourth day, was $23.

I differ with Dr. Guitéras in his statement that "there is no indication for treatment in the first days of the disease." I am sure that whoever will try the effect of morphine in sufficient doses at the onset of the disease will not only not regret it, but never omit it. The effect of morphine in eighth-of-a-grain doses, repeated every two hours till relief of the excruciating frontal and lumbar pains is experienced, is a boon above price to all upon whom the preparations of opium have their desirable anodyne influence. With the disappearance of suffering, the *morale* of the patient is wonderfully enhanced.

There is a popular fear and belief that opiates tend to cause or increase renal complications. It is a myth, as an abundant experience in four epidemics warrants me in declaring.

I rely entirely, so far as medical treatment—as distinguished from nursing, which comprehends baths, injections, food, ventilation, etc.—is concerned, upon morphine during the first days, gentle saline aperients when necessary, and gin cocktails when the pulse begins to falter. I suppose I must have given half a barrel of the latter in 1888, according to the following formula:

℞ Good gin........................... ℥ ij;
Compound tincture of cinchona...... ℥ vj to ℥ viij.

M. Sig.: A tablespoonful in sweetened water, not cold, every three hours.

I do not allow ice or ice-cold drinks. I find that irritability of the stomach is increased by very cold drinks, while it is allayed by hot water, or by other beverages of a high temperature.

In the first epidemics—at Newport, Fla., and at Key West—that I was engaged in, the supply of ice became exhausted. It was regarded as a calamity at first; but soon all esteemed it as a blessing. The lesson was not lost on me.

The mortality of yellow-fever epidemics would be largely diminished if the doctors would be less meddlesome.

Very truly,
George Troup Maxwell, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PÆDIATRICS.

Meeting of March 13, 1890.

Dr. L. Emmett Holt in the Chair.

Gonorrhœa in a Brother and Sister, aged, respectively, Six and Eight Years.—Dr. F. M. Crandall reported the histories of two cases. (See page 463.)

Two Cases of Vulvo-vaginal Inflammation, complicated by Arthritis, in Young Girls.—Dr. Henry Koplik read a paper on this subject. (To be published.)

Tuberculosis in Infants; Report of Eighteen Cases.—Dr. C. G. Kerley presented specimens and read a report on this subject, with the view of illustrating the distribution of the lesion in eighteen cases. (To be published.)

The Prophylaxis of Diphtheria.—Dr. W. P. Northrup, in opening a general discussion on this subject, assumed, as a basis of argument, that diphtheria was contagious by transportation as well as contact. He then went on to consider the best means of avoiding spread of the disease by the physician himself. He thought that the first precaution which the physician should take was to keep his person and garments from becoming infected with secretions from the patient. How was he to effect this? how take the pulse, examine the fauces, listen to the lungs; or make topical applications to the pharynx or insert a tube into the larynx, and then leave the house of the patient, feeling certain that in twenty minutes he might safely visit another child and examine an ordinary catarrhal pharyngitis without danger of implanting upon that susceptible mucous membrane a fresh vigorous colony from his last diphtheria case? It was clear that the physician must protect his person and garments from infection, and must also do his best to destroy infection upon the necessarily exposed parts. He must *protect* and *disinfect*. How often a physician would sit on the side of the diphtheritic patient's bed, play with toys, tease the child and make himself agreeable for a time, and then go away saying he must hurry because he had fifty more visits to make before eleven o'clock that night!

The details of precaution against contamination from flying spittle and *débris* of necrotic bacteria-laden tissue from a struggling child's pharynx should be carefully studied out and conscientiously observed. After such ablutions as would thoroughly cleanse the hands, disinfectants should be used of a strength known to be efficient. There was no excuse for a physician's coat being infected; but suppose his waistcoat got the charge, it should be sterilized. It was for such garments as these, and for many of the articles about the patient, that he recommended sterilization by steam. The speaker then exhibited the practical working of the Arnold steam sterilizer.

Dr. W. H. Thomson said the question as to precautions on the part of the physician seemed to imply that there was enough danger of carrying diphtheria about from house to house to render it imperative that he should use means for personal disinfection. The speaker was not at all sure of any case of infection having arisen directly from such house-to-house visitation; certainly none had occurred in his own personal experience. Of course he had made it a rule to be particular, and did not believe any conscientious physician could fail to deem it incumbent upon himself to be so. It was the speaker's custom to make use of bromine as a disinfectant, and to order its use about the sick-rooms until the atmosphere was surcharged with it. He used one drachm of Smith's solution of bromine to two ounces of water. He believed that it afforded protection to nurses, physicians, and the family. Until he found something better he should stick to this as an effective disinfectant. It was not necessary to destroy all the morbific germs, but doing this in part was probably all that was needed to effect practical disinfection of the locality or the individual. Recent researches pointed to the fact that there existed in our own bodies admirable disinfecting secretions and fluids, and that the serum of the blood and the interstitial fluids acted as powerful antiseptics up to a certain point. These would, in typhoid fever for instance, act until considerable diminution had taken place in the morbific germs. It was possible that in reducing the proportion in any given infectious material we might thereby bring such *materies morbi* within the power of the system to gradually destroy them. Such attenuation would probably result in manifestations of the disease in a milder form. Bacteria, like other growths, required fertilization. By lessening very materially their numbers we minimized the ability for propagation in dangerous proportions.

Dr. A. Caillé said that when he wished to examine a patient with diphtheria he never sat down in the sick-room. He had the child held in the lap of the nurse while he took up a position to one side. He used a spoon as a tongue depressor, and never carried a spatula. After cleansing his hands thoroughly he used some Labarraque's solution upon them, which he always carried with him. For intubations he wore an apron. The physician was not called upon to make himself pleasant. The cases were for the most part serious or desperate. There was no need of wasting time in dallying with the child, and so forth. After leaving the house, a walk of ten blocks would do a great deal toward disinfecting the clothing. The nurses should have long gowns with hoods, and the sleeves should be secured at the wrists by elastic bands. They should be provided with and directed to use the solution referred to and also Javelle water. The disinfection of the patient's naso-pharynx was of the utmost importance, and attention should be directed to insure constant cleanliness of the teeth. The nurses should also use gargles and insufflations.

Dr. I. W. Hance advocated the use of nasal and pharyngeal sprays, his experience with them demonstrating their special utility.

Dr. F. H. Dillingham regarded diphtheria as one of the least contagious of diseases, though, of course, instances occurred in which it was markedly contagious. There was very little danger of a physician carrying the disease about with him if ordinary precautions were observed. It was quite unnecessary to handle the patients. The sick child should be taken to a good light and firmly held before any examination was attempted. Some carbolic acid, used in washing the hands after examination, and a good walk, would be all that was necessary. The same rules were applicable to nurses, except when in daily attendance, and then the hair should be disinfected on getting through with the case. In the matter of prophylaxis, a good deal could be done with gargles and sprays. There did, however, exist a danger from the milder forms of the disease, as people often went about the streets with diphtheria without even knowing of its existence.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of March 27, 1890.

Dr. Egbert H. Grandin in the Chair.

Removal of a Cancerous Uterus by Vaginal and Abdominal Operations.—Dr. G. M. Edebohls presented a specimen of epithelioma of the uterus which he had recently removed. The lesion had been limited to the anterior surface of the organ with but slight parametric induration. The first part of the operation was done *per vaginam.* The bladder being then opened, it was found that the posterior portion of the uterus was firmly united to the rectum. Abdominal section was then made, clamps were applied to the Falloppian tubes, and the uterus was freed from its adhesions and removed. A pyosalpinx on the left side had called for the removal of the tube and ovary.

Removal of an Alleged Cancerous Uterus.—Dr. Edebohls then presented another specimen of a portion of a uterus which he had removed from a woman, forty-nine years of age, who had been sent to him with the request that he would effect the removal by vaginal hysterectomy. Bleeding had been observed, which at length became constant. There was extensive discharge, with pain in the pelvis and the lower part of the abdomen. The entire upper half of the vagina was occupied by an ulcerating mass, with little rounded prominences in the center, and a considerable number of bleeding granulations were present. The diameter of the mass was about two inches. It involved the cervix only. The uterus was five inches in depth, three of which belonged to the cervix. The organ was in the normal position. The appearance of the growth indicated malignancy, but there was no infiltration of the parametrium. This fact had caused the speaker to waver somewhat in his diagnosis of cancer. He scraped out and examined portions of the growth, and the diagnosis of malignancy was thereby further negatived. Local treatment was attempted which had slightly diminished the size of the mass. The growth had proved to be a pedunculated polypus and was removed. The cervix, which was found to be enormously hypertrophied, was amputated. The woman had made an uneventful recovery.

Dr. H. J. Boldt inquired if there was any reason why in the first case the other tube and ovary were not removed. From a practical standpoint a uterus without appendages did seem to give trouble in after-life, pain and a number of neuroses arising from the pelvic organs; therefore it should be the rule to remove the appendages when the uterus was removed. The second specimen illustrated a very important point. If such a case had gone into many hands, and the careful preliminary precautions had been neglected, this woman would have come out of the ordeal minus her uterus.

The Chairman said he was already on record as an opponent of vaginal hysterectomy, except where the disease was located at the fundus. He would like to give it as his opinion that the operation had been least of all called for in the case first described. It should be made a *sine qua non* of operation that the uterus should be movable, and that the parametrium should not be invaded by the disease. Dr. Edebohls was to be congratulated on having his patient still alive. The trouble would recur, and then the progress would probably be most rapid. It seemed to him that thorough curetting, or, if it had been possible, a high amputation, followed by cauterization, would have been preferable to vaginal hysterectomy.

Dr. Edebohls said that he had been induced to essay the operation because the vagina was apparently uninvolved and the disease was limited to the cervix. He had not expected the existence of adhesions. The case had certainly demonstrated that, if curetting, instead of vaginal hysterectomy, had been performed, such thorough scraping would have opened into the bladder, for the disease had already invaded everything except the mucous coat.

A Case of Uterus Bicornis Unicollis, with Parenchymatous Abscesses of the Portio Vaginalis.—Dr. Currier reported the case. He considered it well worthy of particular attention because of the unusual features which it presented. The patient was twenty-five years of age. She had been married eight years and had borne five children. The labors had all been tedious, and the last three were cases of breech presentation. With the exception of troublesome external hæmorrhoids, for which she had consulted Dr. Currier, the patient's general health was fairly good. Examination of the genitalia had revealed a relaxed condition of the vulva and vagina, and of a very large part of the vaginal portion of the cervix, which was fissured and indurated. The body of the uterus was retroflexed and adherent. There were also fissure of the anus and large external hæmorrhoids. At the time of operation upon the hæmorrhoids, Emmet's operation upon the vaginal portion of the cervix was also performed. In removing the wedge of tissue from the left side of the cervix a parenchymatous abscess containing about a teaspoonful of pus was opened. The cavity of the abscess was irrigated and its lining membrane curetted, but the operation wound did not heal well. The tissue of the cervix at the time of the operation was of such firm consistence that it was very difficult to cut it with a sharp scalpel, and next to impossible to force a needle through it. A second operation was performed a month subsequently, in which the endometrium was carefully curetted and the vaginal portion of the uterus amputated. In the course of the latter procedure another abscess, containing only a few drops of pus, was opened in the right side of the cervix. It was a matter of much surprise that the intense induration which had characterized the tissues only a few weeks previously had disappeared. They could now be readily cut and the needle passed with ease. Tait's operation was performed on the perinæum, and the healing of both wounds was entirely satisfactory. A month afterward an abdominal section was made for the purpose of releasing the retroflexed and adherent uterus. The adhesions were readily separated. The left tube and ovary appeared to be normal, while the right ovary was very much enlarged. The right ovary and tube were removed. While the uterus was still held up by the ligature around the stump, the pelvic cavity was carefully investigated with the fingers, revealing what seemed to be a distended rectum. On examining the supposed rectum further, it was found that a tube and ovary proceeded from its outer side, proving the condition to be one of bicornate uterus. On drawing the mass upward into the wound, the two structures were found to be symmetrical with each other, pear-shaped, about two inches and a half in length from the top of the fundus to the bottom of the wide sulcus which separated them, and each in all respects like any normal well-developed uterine body, except that the inner aspect of each was perfectly smooth and without projection or appendage of any kind. The round ligament proceeded in a normal manner from the outer side of each organ. These ligaments were shortened according to Wylie's method, and the patient had made a good recovery. It was quite an easy matter to pass probes into the two uterine cavities from the single cervical opening. Dr. Currier drew attention to the change which had taken place in the uterine tissue after the first operation. An induration of the vaginal portion of the cervix was by no means rare, but was referred in this connection only to the uterus of a parous woman. The second point of interest was the existence of abscesses within the muscular structure of the uterus, unconnected with the endometrium. Then the malformation of the uterus in this case was unusual. The normal fusion of the ducts of Müller in the embryo, by which the uterus was formed, began below and extended upward until the entire organ was symmetrically formed as to its two halves. The failure of these ducts to fuse gave rise to the various malformations and deformities of the uterus. The special malformation in Dr. Currier's case, according to Kussmaul's classification, was known as *uterus bicornis unicollis*.

Dr. R. A. Murray said he had never seen the abscesses referred to in the non-parous uterus. They seemed to be generally connected with the glandular structure. There might in Dr. Currier's case have been a precedent phlebitis due to disturbance of circulation in the bicornate uterus. In the two cases of double uterus which had come under his own observation there had been no interference with the course of labor.

Dr. A. P. Dudley thought such abscesses generally due to glandular disease rather than to uterine inflammation, unless that inflammation followed some surgical procedure.

Dr. A. H. Goelet had, in three or four instances, come across these abscesses of the cervix. The best way to deal with them was to dissect out the sac and bring the tissues together. He had met last spring with a case of double uterus in which there were two cornua and two cervices, with a double vagina. He had dissected out the vaginal septum in this case, and was somewhat inclined now to question the expediency of what he had done.

Dr. Boldt thought that when cases of unusual interest presented themselves to the notice of physicians, it would be well to ascertain whether a report had already been made, as reiterated reporting of the same case was calculated to vitiate statistical records.

Dr. Edebohls had never encountered an abscess at the time of operation. He had seen two cases of abscess of the portio vaginalis. In one case the patient, after being operated upon for laceration, had had acute septic peritonitis and died. An abscess was found in the cervical tissues. In the other case, in which an operation for a similar condition was performed, the patient on the third day began to show symptoms of incipient peritonitis or some septic trouble. Basing the diagnosis of abscess of the cervix upon the experience gained in the former case, he had made an examination which resulted in verification of the opinion. An abscess was found in the cervix, evacuated, curetted, and kept drained, and the patient made a good recovery.

Dr. Currier said that, unless it was clearly appreciated that the form of uterus described by him comprised two complete corpora and one cervix, his idea would not be fully apprehended. This was an exceedingly rare form. The tissue in which the abscesses had developed was not glandular, neither was there any question but that the pyogenic process had taken place within the parenchyma proper of the organ, the tissues of which were very hyperplastic. As to phlebitis, lymphangeitis, or venous obstruction being initial to the abscess development he could not say, as the history was not sufficiently defined.

The Cæsarean Section in moderately Contracted Pelves.—Dr. R. A. Murray read a paper with this title, reporting a case. (To be published.)

Dr. Vanderpoel thought the author of the paper was to be congratulated on having added one more case to the annals of this operation. One of the reasons why statistics did not show more favorably here was obvious. The operation, as usually undertaken, was untimely. The operator was generally handicapped by previous attempts at delivery. Practitioners did not appreciate the importance of mensuration of the pelvis. When the general practitioner learned to make the necessary measurements a month before full term, the outcome would be more encouraging. It was not perhaps requisite to make minute mensuration, but the measurement of the external conjugate should be ascertained, and, if that was below seven inches, trouble might be anticipated. He assumed that the present rule was to operate before labor commenced. If forewarned, the operator could be forearmed, and better results would accrue from the more complete and elaborate preparation. As to the choice of procedure in the case narrated, it seemed to lie between Cæsarean section, craniotomy, and version with breech extraction. Craniotomy would perhaps have offered better chances to the mother. The choice should, however, be left to the mother and friends. It was always possible in an ample pelvis to overcome the difficulties of a breech presentation. With the degree of contraction reported by the author, the choice seemed to have been the correct one. The difficulty of the application of the forceps to the after-coming head lay in the adjustment of the second blade.

Dr. H. Goldthwaite thought that the time was coming when the Cæsarean section would be as successful as abdominal section was to-day.

Dr. Dudley asserted that the mortality to children from contracted pelves in the mothers was a result the responsibility for which rested with the surgeon. Examination, both internal and external, should be made of the patients when they entered a hospital for lying-in purposes. Many conditions existed internally which only careful examination could discover. Tumors or rhachitic exostoses might exist, and yet the external appearances be entirely correct. Then, again, the accoucheur was too apt to feel confident that he could deliver by version, and allowed the case to go on too far before making the attempt. The danger lay in impaction of the head after the body was expelled, the child being strangled to death before the forceps could be adjusted. It was well, when opportunity served, to state the case in good time to the woman and her friends. The author of the paper had said that he had made an incision nine inches long, drawing the uterus out through the abdominal opening before making the uterine section. This the speaker deemed unnecessary, believing that with caution the uterine section might be made without such an extensive abdominal opening, which complicated the chances of union and weakened the woman. He believed that the uterus should be drawn out at the same time as the child, gradual traction being made on the former as fast as the latter was extracted. The future success of the operation lay in securing primary union of the uterine incision, and, if this was done, the remaining dangers were only such as characterized an ordinary laparotomy.

Reports on the Progress of Medicine.

PHYSIOLOGY.

By LOUISE G. RABINOVITCH, M. D.,
PHILADELPHIA.

On the Diapedesis taking Place in the Fœtal Gastric Glands, and on the Probable Origin of the Pepsin Cells.—M. Moutanié (Comptes rendus de la soc. de biol., No. 24, 1889) has observed the cardiac portion of the fœtal stomach to be the seat of cell diapedesis in the direction from the vessels to the glands. By hæmatoxylon eosin stainings he has been enabled to follow out, in microscopical sections taken from the fœtal sheep and cow, migration of cells from the vessels of the hypodermis and connective tissue to the glandular organs. By the reagent the migratory elements are stained in brick-red, and the migratory current is thus distinctly shown; it is subject to variation of intensity during the different periods of fœtal life. Under the microscope the great vessels of the gastric mucous membrane are seen to be filled with easily recognizable leucocytes; their current is directed toward the glands with which they are first in apposition, then they thrust their pseudopodes in between the cells of the mucous membrane, and finally reach the cavity of the glandular orifice. The author summarizes the facts by saying that the fœtal gastric glands are traversed by a current of indifferent cells, which, by virtue of their amœboid movement, leave the blood-vessels, reach the connective tissue, traverse the parietes of the glandular elements, and enter the cavity of the gland. It is of frequent occurrence to find the leucocytes engaged partly internally and partly externally in the principal gland cells. He finds an anatomical and histo-chemical analogy between the leucocytes and the pepsin cells, basing it on their respective characters that can be distinguished only by their situation; the newly differentiated pepsin cells are more or less external to the glandular tube with which they are in apposition, and the same is characteristic of the leucocytes. To the other facts that speak for the analogy of the two is added that the adult peptic cells are situated too in apposition with the principal cells; not infrequently they also present prolongations thrust between the principal cells, and have in general an amœboid appearance. It is concluded that the pepsin cells are nothing but specialized migration cells; this is sustained by Ranvier's researches on the lymph, in which he has demonstrated the digestive power of those elements which he denominated unicellular mobile glands.

On the Action of the Gastric Juice on some Pathogenic Microbes.—M. Straus and M. R. Wurtz's work is reported in the Lyon méd., No. 34, 1889, stating the authors' endeavor to ascertain experimentally the action of the gastric juice on the microbes of tuberculosis, anthrax, typhoid fever, and cholera. The researches were made with the gastric juice of man, the dog, and the sheep. It was obtained through fistulæ by means of a sound, sterilized beforehand, and the following were the results of its action:

On the *Bacillus tuberculosis:* Animals subjected to virulent subcutaneous injections of tubercular poison that had been acted upon by dog's gastric juice for about six hours, and at a temperature of 38° C., had tubercular abscesses at the place of inoculation, and the tubercular infection was soon generalized. If the virus had been treated previously for from six to twelve hours, the subcutaneous injection of the same was followed by a local ulcer, without generalization of the infection, the ulcer being amenable to treatment. If kept under the action of the juice for from eighteen to thirty-six hours, the inoculated bacillus remains fruitless.

On the anthrax bacillus: In case of both the *Bacillus anthracis* with spores, as found in the blood, or without them, as found in several weeks' cultures, the bacterium is invariably destroyed by half an hour's action of the gastric juice on it at a temperature of 38° C. This was a constant result except in one case out of sixty.

On the bacillus of typhoid: This is killed by the action of the gastric juice of man, dogs, or sheep, for a period of two or three hours at a temperature of 38° C.

On the bacillus of cholera: This resists a two-hours' action of human, dog's, or sheep's juice.

Making comparative experiments with hydrochloric-acid solutions of the corresponding strength to that of the juice employed, Straus and Würtz convinced themselves that the destructive action of the gastric juice on the micro-organisms was due not to a special digestive, but simply to an antiseptic property, by virtue of the hydrochloric acid, as had been mentioned before by Spallanzani.

The authors further remark that in their experiments pure gastric juice was used, and that consequently its action could not be considered as physiologically digestive, for which purpose the gastric juice is always more or less diluted.

On the Knee-tendon Reflexes, and particularly the Successive Reflex Contractions.—Among the facts contributing to show that muscular contraction is provoked by shock of the patellar tendon, M. Ch. Féré (Comptes rendus de la soc. de biol., No. 30, 1889) refers to Jendrassik's work, in which the latter has observed that voluntary muscular tension, or a muscular effort encroaching even on a distant region, favors and also exaggerates the phenomenon. In a similar way excitation of the special senses (Ch. Féré, *ibid.*, 1885, p. 590), or of the skin (Weir Mitchell and Morris Lewis, Am. Jour. of the Med. Sci., Oct., 1886, p. 364), induces the same exaggeration of the movement. Psychical excitations have the same effect, as the author was enabled to witness exaggerated reflexes during a transitory attack of mania in epilepsy. Under these conditions, shock to the tendon, though of the same intensity, causes not only a more vigorous, but also a more rapid movement; the difference may amount to 0·02″, 0·03″, and even 0·04″. The same difference of the intensity and duration of the movements is found in hysterical subjects that are under the influence of suggested sensorial or sthenic emotional excitations.

M. Féré accounts for these accidents by the modification of the general circulation that necessarily influences the muscular contractility and at the same time the central excitability. By means of recording the tracing, M. Bloch (Jour. de l'anat. et de la physiol., 1885, p. 19) has found that, should the rectus anticus muscle be the seat of the initial shock, the inferior muscular segment is the first to contract; if it is the tendon that the initial shock is brought upon first, the change in the muscular shape is synchronous in both segments. M. Féré repeated Bloch's experiments in the endeavor to find the correspondence of his statements with the phenomena observed in epileptics and in chronic cases of hemiplegia.

In these cases the tendon was the seat of initial shock, and the evidences of muscular contraction in the inferior segment of the rectus anticus muscle appeared about 0·01″ to 0·03″ later than that in the superior segment. The duration of retardation was in proportion to the degree of muscular atrophy. These results are diametrically opposite to what is found, under ordinary conditions, after irritation of the lower muscular end.

In two hemiplegic patients the successive reflex contractions were more marked on the more affected side.

The author explains the occurrence of the succession of the reflex contractions by an obstacle to transmission in the peripheral end of the motor nerves, and says it can be used as a diagnostic guide. Should the succession of contractions exist, it necessarily indicates and is a physical sign of peripheral neuritis. He quotes Charcot, who had already pointed out the existence of increase in volume of the nerves in chronic hemiplegia, M. Cornil confirming the same.

The Influence of the Nervous System on Infection.—Pourtour du Petit has referred to the section of the cervical sympathetic nerve as a factor in the production of redness of the conjunctiva. It is known since, M. Ch. Féré (Comptes rendus de la soc. de biol., No. 30, 1889) states, that, if this redness is not exactly of an inflammatory character, the condition favors the development of inflammation, particularly if the animal is subjected to bad hygiene (Cl. Bernard).

Certain pathological innervations, M. Féré alleges, are accompanied not only by vaso-motor disturbances, but also by blood alterations and defective nutrition, and this explains, perhaps, the predisposition to infectious diseases under such circumstances. Charrin and Ruffer have found recently that section of the sciatic nerve seemed to favor the development of the pyocyanic bacillus. With reference to this work, M. Féré, while revaccinating the patients of his wards, followed out with particular interest the cause of the effect of symmetrical inoculations in both arms of twelve hemiplegic subjects, having in view the question of whether the paralyzed side differed from the sound one in resisting the virus. Three of these patients had vaccine pustules exclusively on the hemiplegic side.

The author suggests further similar experiments on men, for this is the first experiment of its kind.

Researches on the Intimate Nutrition of the Liver (Presented by Quinquand).—In previous researches on experimental glycosuria, Arthour and Butte (Comptes rendus de la soc. de biol., No. 31, 1889) had observed that the hepatic lesion characteristic of the presence of sugar in the urine consisted in a dilatation of the capillary meshwork. In their opinion, the dilatation secures a richer supply of oxygen, which is the immediate cause of hyperglycæmia and subsequent glycosuria.

To demonstrate that the glycogenic function is in intimate correlation with the amount of arterial blood traversing the liver, experiments have been made in which live tissue was subjected to the action of oxygen and carbonic acid separately. The work is summarized in tabulations, which show that after the lapse of one hour the amount of glucose produced is about the same under the action of either oxygen or carbonic acid. After two hours a slight difference is noticed, the oxygen giving the greater amount of produced glucose. If the hepatic specimens are left under action for six hours the difference becomes conspicuous, and in all cases it is found that the quantity of glucose formed in the oxygen atmosphere is decidedly greater. When the experiment lasts twenty-four hours the reverse is noticed. It is suggested that the liver, like most of the tissues, is apt to oxidize a certain part of the sugar if the experiment extends over as long a period as twenty-four hours, and that such results could not be taken as physiological evidences, but that it is more correct to take experiments of six hours' duration as parallel facts corresponding to the physiological glycogenic function; and these experiments show that the formation of glucose is greater in the hepatic tissue when this is in contact with oxygen. In conclusion, the authors say that the destruction of glycogen is the more easily performed the more active the liver is physiologically, and the production of sugar is the more abundant the better the hepatic arterial circulation is performed.

1. **On the Effects of Ablation of the Thyreoid Gland in Animals.**—Rogowitch (Arch. de phys., Nov. 15, 1888).

2. **New Researches on the Function of the Thyreoid Gland.**—Munk (Sitzungsberichte der Academie der Wissenschaften zu Berlin, 1888).

3. **Contribution to the Physiology of the Thyreoid Gland.**—Grützner (Deutsche medicinische Wochenschrift, 1889). The authors' works are reported in the Jour. de méd., chirur. et pharm., No. 11, 1889, as follows:

1. The experiments of physiologists (Schiff) and the results of ablations of the thyreoid gland in those subject to goître (Kocher) go to prove the connection between the function of this gland and the cerebral nervous system. The gland is supposed to share in the cerebral blood-supply and to regulate its circulation. There is controversy among physiologists on the subject. For Bruns, among others, the rôle of the thyreoid gland is to destroy matter which, if accumulated in the blood, would be poisonous to the nervous system, or else the gland serves to elaborate material necessary for the nutrition of the same. The experiments of Rogowitch agree with the first of Brown's experiments.

The animals operated upon presented disturbances analogous to those observed by Schiff, which were symptoms of excitation and depression of the central nervous system, expressed by phenomena of general paresis of movements, tremors of the extremities, and occasionally convulsions of different groups of muscles, more or less localized, and sometimes generalized, of a tetanic character. The sensory centers are equally involved; the animal groans, and scratches itself until it bleeds. There is first diminution, and after a given time complete disappearance, of the tendon reflexes, with impaired appetite. The number of red blood-corpuscles is unchanged at first, but this is soon followed by hypoglobilia.

Dogs and cats give nearly the same symptoms. Rabbits seem to stand the operation fairly well, and do not show any grave subsequent symptoms. That the given phenomena resemble those of intoxication is confirmed by the fact that if the blood of an animal is injected into the veins of another, the receiver recovers quickly; but it has the typical symptoms of intoxication in case the thyreoid gland has been extirpated in the donor previous to its supplying the blood for injection. This speaks clearly for the thyreoid gland as having the function of neutralizing certain products that prove harmful to the nervous system.

Microscopical examinations of the brain and spinal cord have confirmed the conclusion. The author found characteristic alterations localized in order, first, especially in the brain, then in the medulla, and finally in the spinal cord. In dogs and cats it is likely to happen that they do not succumb to the operation before a certain time. The abnormity is explained by the intervention of compensation of the thyreoid by the pituitary body; their structure is analogous, and after the operation there is an accumulation of colloid substance in the hypophysis. The symptomatology in the experiments is compared to that observed by Kocher in cachexia strumipriva, and also to cretinism that follows ablation of the thyreoid in men.

The experiments of Rogowitch are said to show with satisfaction why the thyreoid gland is to be considered as a hæmatopoietic organ: In men and animals the phenomena are nervous in conjunction with trophic disturbances, both being followed by alteration of the blood, which explains the train of symptoms presented by individuals operated upon; œdematous swelling of the face and limbs, augmentation in volume of the body, dryness and pallor of the skin, falling out of the hair, and finally anæmia.

2. Coincidently with Rogowitch's work, H. Munk's experiments on the function of the thyreoid gland go to prove that the disturbances following the extirpation of the organ are essentially dependent upon the trouble caused by the operation itself, and that the subsequent symptoms are derived from alteration in general of the nutrition of the nervous system, produced by augmented disturbances of the circulation and respiration.

Munk thinks these symptoms prove the importance of the function of the thyreoid body, the function being vital to the nervous system; but that essentially the disturbances are the consequence of different irritations of the nerves in the neighborhood of the extirpated gland. The author confirms this view by simply separating the gland from its adjoining parts, or else by injecting irritating substances in the neighborhood of the organ, and in either case inducing the characteristic train of symptoms observed after extirpation of the thyreoid body. The value of this argumentation is reduced by the statement that often animals survive after they have been subjected to extirpation of the gland, without giving any symptoms for a number of months, then becoming ill suddenly, when the wound has healed perfectly; or the fact of the operation being harmless for months when one half of the gland is operated upon, and proving speedily fatal when the second half undergoes the same operation.

3. Munk's conclusions are combated by Grützner in his recent work on the physiology of the thyreoid gland. The latter author does not admit the cause of the disturbance to be the lesion of the nerves alone; he thinks the symptoms can be induced only by a toxic agent in the blood analogous to that in tetanus. The author is not certain, however, as to whether this poison originates in the wound or in the body itself. The article is concluded by a statement of the existing diversity of opinion on the subject of the pathogenesis of the train of symptoms succeeding extirpation of the gland, and the statement that the question deserves attention, for any decision here would throw much light on the physiology of the body and the pathogenesis of the interesting morbid conditions designated as myxœdema, acromegalia, and the more recently known, goître, etc.

On Apparent Death.—M. Brouardel (Gaz. des hôpit., No. 55, 1889) thinks that too often physicians consider individuals as being dead when they are not so in reality. Aged people, he states, infants, the newly born, and all enfeebled persons are predisposed to apparent death. It is a well known fact, it is alleged, that after a difficult labor the newly born is apt to be apparently dead for two, three, and sometimes four hours; and that those who are familiar with the life of newly born animals know that often they begin their respiration after the administration of a warm bath lasting for half or an entire hour; and, according to Paul Bert, the newly born has a special resistance of its tissues that accounts too for the tolerance to certain intoxications, as that of strychnine.

The physician is most apt to be deceived by hysterical persons, who are capable of living like hibernating animals, producing 3 instead of 20 grammes of urea, and 40 instead of 550 grammes of vapor in the twenty-four hours. Under such conditions a false diagnosis is apt to be made, the falsity being recognized, in case of hysterical patients, at the critical moment—as the author expresses himself, at the moment the person is to be laid in the coffin.

In persons convalescing from grave diseases, the author goes on to say, syncope is easily induced at the moment the patient rises; the deficient cerebral circulation and venous stagnation in the lower limbs are favorable conditions to the occurrence of apparent death. He further relates the case of a criminal who was hung in Boston at 10 A. M., taken down at 10.25 A. M., and transferred to the anatomical amphitheatre an hour thereafter, when his pulse recommenced to beat. On opening the thorax, the pulse was seen to beat 40 a minute, and it stopped beating at 2.45 P. M. A similar case of Hoffmann's is quoted. In this case the explanation of the accident is that the cerebral blood-supply, though deficient, yet was enough to maintain life.

The author does not accept this reason; it seems illogical to him that the heart should stop under the influence of simple cerebral anæmia, when it continues to beat for about twenty minutes after complete decapitation.

He believes that in infectious diseases and algid fevers there are a good many examples of resurrection; the ptomaines he considers to have characteristic anæsthetic properties; injected into a frog, the latter assumes any given cataleptic properties that may be desired.

Allusion is made to the apparent death of animals subjected to congelation. One similar fact is reported to have happened in a grenadier; the man passed three hours in the water in the month of January; resuscitation was brought about by virtue of the persistent care of a young surgeon that was intimately attached to him. Another series of apparent deaths, the author states, is to be looked for in commotion of the nervous system by lightning, which is at the head of the list of causes.

M. Lestier's seven cases are quoted, where the subjects, under the action of lightning, had remained apparently dead for periods varying from several minutes to three hours. Physicians who took the observations stated that no pulse could be felt at all, the excitation having been strong enough to stop the heart's action. A case of Budin's is recited in which a sailor is said to have fallen apparently dead under the influence of an electric discharge; all means used failed to resuscitate the man; he was finally subjected to the influence of hailstones that were falling on the deck, and resuscitation was successfully brought about after continuous treatment for an hour and fifteen minutes. Other facts are related, and it is concluded that such cases are to be classed under the heading of syncope or cerebral commotion. The author alludes to the fact that people have been buried for eight and fifteen days, and yet been resuscitated.

The caution is given not to mistake alcoholic cases; two such are reported in which the subjects were restored to life—one of M. Laborde's, in which the rectal temperature had been 24° C.; the second, M. Bourneville's, in which the rectal temperature had been 25° C.

The author says in a convincing manner that physicians are too hasty to diagnosticate death in unfortunate cases of the use of anæsthetics; he thinks that much more time should be spent in trying resuscitation before the case is pronounced hopeless. He finally advises great caution in diagnosticating death, especially in cases of hysteria and syncope. It is easy to hear the heart beat, he alleges, when the heart muscle is contracting vigorously, but in experiments of vivisection it is well known that the heart, without actually stopping, may at the same time not be heard for a certain period.

Researches on Respiration during Submersion.—Professor Brouardel and Dr. Paul Loye (Arch. de phys. norm. et pathol., No. 3, 1889) consider particularly the question of submersion where heavy weights are attached to the body and the animal is drowned without reaching the surface during the period of its struggle. The same question had been analyzed by the Medico-chirurgical Society prior to these researches, but the authors give in addition the graphic tracings of the respiration and blood-pressure corresponding to the different phases of the submersion, and have tried to draw an analogy between the experimental results and the recognized facts as found in medico-legal post-mortems.

From this work it is concluded that: 1. By sudden submersion death is caused in dogs within from three minutes and a half to four minutes. The time from the moment of immersion to the end of life is denoted by five phases, characteristic especially of the respiratory modifications: (*a*) the phase of surprise, lasting ten seconds—there are one or two inspirations and some resistance on the part of the animal; (*b*) the phase of resistance to respiration and agitation, lasting one minute—it is characterized by violent excitement and temptation to get rid of obstacles in the way, and to reach the surface, the glottis being closed and respiration arrested; (*c*) the phase of vigorous respiratory efforts, with arrest of general movements, lasting one minute; (*d*) the phase of respiratory suspension and loss of sensibility, one minute; (*e*) the phase of suspension of life, thirty seconds.

2. The diaphragmatic respiration predominates in all phases of submersion.

In both submersion and mechanical occlusion of the respiratory tracts death is brought about by asphyxia; in the latter case the animal brings into play all its inspiratory forces to gain access to the oxygen that is absent, but in the former, efforts are made to annihilate the same forces in order to prevent the entrance of the surrounding liquid.

3. In the second phase the resistance to the entrance of water into the respiratory tract is not due to the closure of the glottis, but is the result of immobilization of the thorax, which is brought about by the action of the surrounding water on the sensitive nerves of the skin and the naso-pharyngeal, laryngo-tracheal, and bronchial mucous membranes. The excitation produced by this irritation is transmitted to the brain, which leads to voluntary respiratory suspension; it is communicated also to the bulbar centers, which inhibit the respiration in a reflex way, so that the resistance is of both voluntary and involuntary origin. In submersion, death is also often brought about by syncope because of the prolonged and persistent respiratory suspension that depends upon inhibition from irritation.

This is of value from the medico-legal standpoint, and explains the post-mortem appearances of drowned subjects, leading to the inference that death has been caused by syncope because of the absence of the usual characteristics of death from submersion.

On the Respiratory Capacity of Epileptic Subjects.—M. Féré (L'abeille médicale, No. 27, 1889) speaks of the frequency of the occurrence of phthisis in epileptic subjects. He thinks the fact is not due to any anatomical peculiarities of the thorax in those patients, for, in proportion to the body, the thorax of an epileptic is analogous in its development to that of any other subjects, but he has found the respiratory capacity of the chests in epileptics to be decidedly less than that of normal chests. The diminution of the respiratory capacity is augmented with the number of epileptic fits, and seems to be dependent upon paresis of the muscular mechanism of the thorax.

The author's presumption is that tuberculosis in epileptics is brought about by this enfeebled respiratory capacity. M. Brown-Séquard thinks that potassium bromide, so commonly used in epilepsy, shares in the development of phthisis, and that this is especially the case in females.

It is mentioned that in the last century, when potassium bromide was less extensively used, the coexistence of tuberculosis and phthisis was not much spoken of. This fact, though, is not taken as an actual confirmation of this remedy sharing in the development of tuberculosis. He thinks, however, that, besides this remedy, there are a good many other factors favoring the development of the disease in this category of patients.

M. Féré thinks there is sufficient reason against rejecting this statement, for very often has pulmonary congestion been observed in accidents due to the use of potassium bromide.

M. Hénocque has noticed a number of epileptics, even those free from tuberculosis, to have what are called "ongles hippocratiques." He has demonstrated, on the other hand, the condition of diminished activity of the vital exchanges in epileptic patients, and alludes to the possibility of a common cause to account for the existence of tuberculosis and deformity of the finger-nails, which is, he thinks, diminished nutrition.

M. Brown-Séquard does not accept this theory, for, he states, if it were dependent upon diminished interchanges, the toe-nails, as well as the finger-nails, would equally be deformed; this not being the case, the only cause to account for the local deformity of the finger-nails is a reflex act, having the starting-point in the altered lungs.

M. Féré hesitates in accepting M. Hénocque's statement as to the deformity of the finger-nails.

M. Capitan remarks that Irish authors have noticed the frequency of the same deformity in persons affected by hydatid cysts of the lungs, and this made M. Brown-Séquard conclude that the latter statement confirmed his theory.

The Physiological and Pathological Inferiority of the Left Half of the Human Body.—M. Henry Duchenne (Gaz. des hôp., No. 16, 1889) draws attention to the fact that the left side of the body is in constant need of protection against exterior violence, and this is secured by the active superior limb of the right side of the body; as a consequence, activity is brought about in the right inferior limb and the corresponding portion of the trunk, the left half of the body being brought by the same fact into a relatively passive condition. The mechanical activity of the right half of the body leads to its nutritive activity, and the mechanical passivity of the left half of the body encourages nutritive passivity, which generates the physiological inferiority, or, in other words, pathological predisposition.

Heredity, it is alleged, and the consequences of natural selection, must not be lost sight of in this connection.

As regards the pathological inferiority of the left half of the human body, the author reminds that the predisposition of this half of the body is obvious from the following knowledge:

In the brain: Obliterative arteritis affects more frequently the left Sylvian artery. Lungs: Tubercular and pneumonic infiltrations have their seat of predilection in the left pulmonary apex. Kidney: The granular and cystic kidney is found mostly to be on the left side. Ovaries: Oophoritis and ovarian hyperæsthesia are found mostly on the left side. Testicles: Orchitis, found mostly on the left side. Spermatic cord: Varicocele, found preferably on the left side. Nervous system: Intercostal neuralgia, hysterical hæmianæsthesia, contractures, and hemichorea are observed to prevail on the left side. Breasts: The left breast is oftener the seat of cancerous affection than its fellow. Face: Unilateral hare-lip is found preferably on the left side. Inferior limbs: Tarsalgia of adolescence is seated preferably on the left side.

I. **Researches on the Assimilation of Sugar of Milk.**—Bourquelot and Traisier (Comptes rendus de la soc. de biol., Feb. 23, 1889).

II. **The Physiological Role of Sugar of Milk.**—A. Dastre (*ibid.*).

I. Sugar of milk, as reported by Paul Loye (Revue des sc. méd., No. 67, 1889), is assimilated indirectly. Dastre has demonstrated this sugar to be found in the urine when injected intravenously in dogs. To learn the digestion and the mode of assimilation of lactose, Bourquelot and Traisier compared the sugar of milk ingested and the sugar eliminated by the urine in diabetic subjects who digest but do not assimilate sugars. Sugar of milk was given to a diabetic patient in increasing doses; the sugar in the urine augmented correspondingly, and at certain days this augmentation was equal, or nearly so, to the quantity of sugar ingested.

This surplus of sugar is said to have had its origin in the sugar of milk that had previously been transformed into glucose. The latter is supposed on this ground to be the chemical form that carbohydrates are transformed into before they are fit for utilization in the economy.

II. The assimilation of the least assimilative sugars—lactose—is indirect; the power of its assimilability approaches that of saccharose. It is easily transformed into galactose and glucose, which are assimilated directly.

In the twenty-four hours infants are said to ingest about sixty-five grammes of sugar of milk, and the rate of assimilation is presumed to be similar.

Miscellany.

Entero-malarial Fever.—In the Marine-Hospital Bureau's Abstract of Sanitary Reports for April 11th we find the following special report by Dr. J. J. Kinyoun:

During the past year a careful search has been made in the majority of malarial and enteric fevers occurring at the Marine Hospital, New York, for the purpose of establishing the presence of the *Plasmodium malariæ* in the blood and of the bacillus of Eberth in the spleen or intestinal canal.

The majority of malarial cases (over one hundred) were from one locality, viz., Virginia. They came from schooners engaged in the pine-wood trade between this port and Richmond. According to statements made by the patients, in nearly every instance only sufficient water was taken aboard in New York to last until they reached the pine-wood section, when they were compelled to drink river water or that from stagnant pools. Such water was also taken aboard for the return trip, and on arrival it not infrequently happened that several cases of malarial fever had developed.

The same statement will apply to many other vessels plying between New York and the more southerly ports, it being found that malarial infection becomes more frequent on those vessels whose sailors are obliged to go ashore and drink the water of the locality than in those that carry sufficient water to last them for the round trip. This fact alone suggests that almost if not all cases of malarial fevers are contracted by means of drinking-water.

Connected with this series of cases several others of mixed infection have been encountered—a combination of malarial and enteric fevers, presenting clinically some deviations from the general course of either disease, and deemed of sufficient importance to record.

No difficulty has been encountered in establishing the source and time of malarial infection, but with regard to the enteric infection the difficulty has been great. Generally, however, the history was to the effect that the patient had remained ashore for some time previous to sailing to the malarial districts.

This combination of these diseases has presented two sets of symptoms, dividing the cases into two groups:

1. Cases in which the symptoms of malarial fever predominate, masking the enteric lesion.

2. Cases in which the symptoms of enteric fever are most prominent.

In the first group (two cases), at the onset of the attack, the patients presented clinically all the symptoms of malarial fever, remittent, giving a clear history of infection, the attack being characterized by a chill followed by fever and remissions, constipation and irritable stomach, etc., this chain of symptoms completely masking the graver trouble, so that suspicions were not aroused as to the true character of the malady until the patients were under observation for four or five days. On admission, the blood of the patients was examined for the malarial organism, which being found in abundance, the cases were put on appropriate treatment.

A brief synopsis of the symptoms of one case will serve for both:

H. M., aged twenty-three, was taken sick two days before admission, the attack commencing with a chill followed by fever, marked by a remission. On the day of his admission he had chilly sensations, then a rise in temperature, followed later by remission. A careful physical examination revealed nothing abnormal except a slight tenderness of the epigastric region and a considerable enlargement of the spleen. The bowels were constipated. A microscopical examination of the blood was made, and a large number of the *Plasmodia malariæ* were found free both in the serum and within the blood-corpuscle. This established the diagnosis of malarial fever of the remittent type.

On the fifth day after admission there appeared on his abdomen several suspicious-looking spots suggestive of enteric complications. On the day following he had slight epistaxis, a tendency to diarrhœa, and tenderness in the right iliac fossa. At this juncture a bacteriological examination was made of the fæces, and after several trials a bacillus answering to the description of that described by Eberth was isolated from the stools. An examination of the blood at this time demonstrated the presence of the malarial parasite, but in greatly diminished numbers, being confined to the corpuscle. During the next week the enteric symptoms became so marked that without any microscopical examination there could be no doubt concerning the enteric fever. At this time the remissions had ceased and the temperature curve was characteristic.

In the second case (group 1) the symptoms were not so pronounced as in the first, but it did not differ from it on the whole. The *Plasmodium malariæ* was found in the blood in abundance, and later the typhoid bacillus was isolated from the stools.

In the second group of cases (three in number) the enteric symptoms were well marked, giving a clear history of the disease. The patients had just returned from the South, where malaria was rife. The history gave the prodromal period, lassitude, etc., followed by diarrhœa, epistaxis, and tympanites, and in one case slight hæmorrhage.

As a matter of routine the blood was examined for the parasite, which was found confined to the corpuscle not free in the blood serum.

A bacteriological examination was made in each case, and the bacillus of enteric fever isolated, thus establishing the coexistence of both factors in the disease.

In one of these cases, during the third week of the attack, when convalescence appeared to have been established, the temperature being normal and the appetite returned, he had a sudden elevation of temperature that rose to 39° and lasted about four hours. The cause of this was attributed to some dietary indiscretion, a not infrequent mishap during convalescence from enteric fever. In twenty-four hours after the first attack he had another similar in all respects, which suggested that the probable cause was malarial. The blood was again examined, and the *Plasmodium* found to be present. A return to antiperiodic treatment for a few days, and then the case went on to speedy convalescence,

The other cases of this group terminated fatally, one by peritonitis following perforation, and the other by pneumonia. The combination of the two causes appears to have produced a more adynamic form than has been observed in other cases with like symptoms occurring here during the past two years.

Calling attention to the history of these cases is for the purpose of demonstrating that there is a combination of the two diseases, producing two distinct sets of symptoms, and that it is difficult, if not next to impossible, to demonstrate it without recourse to both microscopical and bacteriological examination, notwithstanding the statement made by an eminent scientist that enteric fever can be differentiated from malarial infection by examination of the blood.*

This class of cases without doubt gave rise to the fallacy that malarial fevers not infrequently terminate in typhoid, this opinion being held largely by the medical profession in malarial districts.

My observations on the blood of malarial fever cases have not been attended with any difficulty. Drawing the blood from the finger-tips usually sufficed; in but few instances was it necessary to draw blood from the spleen.

In making examinations of the fæces for the bacillus of Eberth, failures outnumber the successes, owing to the fact of the enormous number of other bacteria present.

To make any deduction as to the duration of this form of disease will require more cases than I have cited, this preliminary note being offered for the purpose of inviting the attention and co-operation of other observers, and to elicit their views upon the points in question.

The conclusions arrived at may be summed up as—

1. Malarial and enteric fevers are not antagonistic to each other.

2. A differential diagnosis between the two diseases is sometimes impossible.

3. There exists a mixed form of infection which can be diagnosticated by means of a bacteriological and microscopical examination.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary reports for April 18th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y......	April 12.	1,608,119	756	..	..	..	..	..	..	5	7	29	14	13
Chicago, Ill..........	April 12.	1,100,000	376	..	..	..	..	..	..	7	1	19	1	1
Philadelphia, Pa.....	April 5.	1,064,277	390	..	..	..	..	..	..	5	2	9	5	3
Brooklyn, N. Y......	April 12.	859,612	343	..	..	..	..	..	..	3	6	16	2	4
Baltimore, Md.......	April 12.	500,343	184	..	..	..	..	..	..	1	..	4	11	....
St. Louis, Mo........	April 5.	450,000	134	..	..	..	..	..	..	1	..	1	..	....
Boston, Mass........	April 12.	420,000	173	..	..	..	..	..	..	2	..	12	..	1
San Francisco, Cal...	April 4.	330,000	146	..	..	..	..	..	..	2	..	1	3	....
Cincinnati, Ohio.....	April 12.	325,000	116	..	..	..	..	..	..	2	1	6	..	....
New Orleans, La.....	April 5.	254,000	134	..	..	..	..	..	..	..	..	2	5	....
Detroit, Mich........	April 5.	250,000	70	..	..	..	..	..	..	..	3	8	..	....
Washington, D. C ...	April 12.	250,000	90	..	..	..	..	..	..	1	..	..	..	....
Pittsburgh, Pa.......	April 5.	240,000	106	..	..	..	..	..	..	2	..	4	..	....
Pittsburgh, Pa.......	April 12.	240,000	108	..	..	..	..	..	..	3	..	3	3	....
Cleveland, Ohio.....	Mar. 22.	240,000	101	..	..	..	..	..	..	3	1	2	3	1
Cleveland, Ohio.....	Mar. 29.	240,000	86	..	..	..	..	..	..	1	..	2	..	3
Louisville, Ky.......	April 5.	227,000	†123	..	..	..	..	..	..	1	..	1	..	....
Louisville, Ky.......	April 12.	227,000	55	..	..	..	..	..	..	..	..	..	..	....
Milwaukee, Wis......	April 12.	210,000	88	..	..	..	..	..	..	1	1	5	..	....
Minneapolis, Minn...	April 5.	200,000	37	..	..	..	..		..	1	..	1	1	....
Newark, N. J.......	April 5.	194,938	93	..	..	..	..	..	..	4	1	2	..	1
Providence, R. I.....	April 12.	130,000	44	..	..	..	..	..	..	3	..	1	3	1
Rochester, N. Y......	April 5.	130,000	48	..	..	..	..	..	..	..	..	..	..	....
Indianapolis, Ind....	April 11.	129,346	30	..	..	..	..	..	..	..	..	1	..	....
Richmond, Va.......	April 5.	100,000	49	..	..	..	..	..	..	1	..	..	..	2
Toledo, Ohio........	April 11.	92,000	27	..	..	..	..	..	..	..	..	4	..	1
Fall River, Mass.....	April 12.	69,000	32	..	..	..	..	..	..	..	..	..	..	1
Nashville, Tenn.....	April 12.	68,531	28	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C......	April 12.	60,145	27	..	..	..	..	..	..	..	..	..	1	1
Manchester, N. H....	April 12.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.........	April 12.	42,000	8	..	..	..	..	..	..	..	..	..	..	1
Binghamton, N. Y...	April 12.	35,000	6	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.......	April 11.	31,000	10	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa..........	April 5.	30.000	4	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I........	April 3.	23.000	1	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I........	April 10.	23,000	4	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.......	April 12.	22,011	7	..	..	..	..	..	..	..	..	1	..	....
Rock Island, Ill......	April 6.	16,000	4	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	April 5.	15,000	5	..	..	..	..	..	..	..	..	..	..	....

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

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* Councilman, A. P. H. A., 1888, vol. xii.

† This number includes 66 whites and 6 colored persons killed by falling buildings from a cyclone.

Lectures and Addresses.

CANCER OF THE RECTUM AND EXTIRPATION.

ABSTRACT OF A CLINICAL LECTURE AT THE NEW YORK POST-GRADUATE HOSPITAL.

By CHARLES B. KELSEY, M. D.

Gentlemen: The patient before you gives the following brief history: He is fifty-eight years of age, has never had any rectal trouble till a few months ago, and now complains of pain, difficulty in defecation, and the occasional passage of a little blood and mucus. You perceive that he appears in good health, but closer questioning reveals the fact that he has lost many pounds of flesh, that he is nervous, worried about himself, and has given up his work. He has consulted many physicians, has had applications of all kinds to the rectum, until, finally, Dr. Shannon has sent him here for treatment. Following the questions still more closely, we find that the first symptoms complained of were pain and difficulty in defecation, and that the blood and mucus, indicating ulceration, have only come on within the last few weeks.

Introducing now the finger into the rectum, we find it normal till we pass above the anus and fairly into the pouch. In other words, at a distance of about an inch and a half from the anus we encounter a pathological process which extends to the height of three and a half or four inches and completely surrounds the bowel. We also notice that it extends a little higher in front over the prostate than behind; still, with my finger, which is a long one, I am able to reach healthy bowel at all points above the disease. The caliber of the bowel at the point of disease is diminished, though not to such an extent as to prevent the easy passage of my finger. The mucous membrane at some points has become ulcerated, and you perceive as I withdraw my finger that the end is covered with blood. The wall of the gut is much thickened, and the thickening is increased by small, hard masses of tissue, attached by broad bases to the main body of the disease, and projecting as ridges into the cavity of the gut. The entire mass of disease is movable on surrounding parts, except at one point anteriorly. Passing a sound into the bladder, I feel the disease between it and my finger in the rectum, but can not decide whether the mass can be moved over the instrument or not.

We have, then, a stricture of the rectum—one due to an infiltration of the rectal wall with new material—and the question as to its character at once arises, for upon our answer to this the treatment must depend.

For your convenience I have placed on the blackboard the following classification of rectal strictures, and we will go through them one by one and see in which class this most properly falls.

- Congenital.
- Acquired.
  1. Pressure.
  2. Spasm.
  3. Non-venereal.
     - *a.* Dysenteric.
     - *b.* Inflammatory.
     - *c.* Traumatic.
  4. Venereal.
     - *a.* Cicatricial.
     - *b.* Neoplastic.
  5. Cancer.

Dividing all strictures into congenital and acquired, we can at once discard the congenital in this case. Not, however, because the man is fifty-eight years of age, for a man may easily live till that age with a congenital stricture, but for the following reasons: He has always been well till five months ago. Had he had a stricture all his life he would have had a history of chronic constipation lasting since childhood. Again, congenital strictures are always either membranous diaphragms, such as I showed you in the child the other day, or else they are annular in form, involving only a slight extent of bowel longitudinally, and giving the same feel as would a piece of tape tied more or less tightly around the rectum. They are never, as this is, produced by an infiltration of all the coats of the bowel.

Considering next the acquired strictures, we may at once dismiss the first two varieties—those from pressure on the gut, and those caused by spasm. I here show you a stricture due to pressure. The specimen, as you see, includes uterus, rectum, ovaries, and ligaments, all bedded in a mass of plastic exudation of almost stony hardness. Both ovaries are cystic, and there is an abscess cavity between the rectum and the left ovary, from which the probe passes easily into the rectum below the stricture. In this case there are two strictures—one at four inches and one at eight—and both are caused by the pressure of the exudation tying the gut down to the sacrum. You will observe that the mucous membrane of the rectum is entirely normal, and there has been no ulceration either above or below the constrictions—a thing which you would not see had the disease started in the rectal wall. This woman should have had a left inguinal colotomy, but she would not, and, after being carried through one attack of acute obstruction by means of opium and frequent tappings of the distended coils of intestine with a fine trocar, finally died of heart and kidney complications.

Spasmodic stricture may also be at once excluded. Indeed, some might criticise my having included this even among the possible causes of stricture, so rare is it. In the last edition of my own work on the rectum I said that a well-marked stricture which could be plainly felt and which disappeared under ether was a thing all were waiting to see. Since then, and very recently, I have seen it, and with my colleague, Dr. Gibbs, have relieved it by curing the ulceration of the rectum upon which it depended.

Coming now to the non-venereal strictures, we can easily eliminate all varieties of them. This one is not dysenteric, for the patient has no history of the dysenteric ulceration which alone could cause it. It is not inflammatory, due to a proctitis or periproctitis with sloughing and final cicatrization and contraction; nor is it traumatic.

The venereal strictures are divided into the cicatricial and neoplastic. The former are due either to chancroid or secondary syphilitic ulceration. Stricture from chancre has not yet been proved, nor has stricture from a mucous patch. At this point we must proceed cautiously in our diagnosis, for the patient acknowledges the practice of passive pæderasty. He is unmarried and a foreigner from a warm climate, where such practices are much more common than in New York;

though they are by no means unknown here. He also has the peculiar funnel-shaped and dilated anus which is considered by French writers as diagnostic of this vice in either sex.

The question at once arises, May this man have contracted a chancroid in the rectum and may his present condition be the result? I think not, for chancroidal ulceration with cicatrization and infiltration would give us a different history. The ulceration showing itself by bloody diarrhœa would be the point to which he would first call our attention, whereas, if his history be correct, the ulceration here is secondary to the infiltration. That the disease is not due to secondary syphilitic ulceration is shown by the fact that he has no syphilitic history, and also by the fact that were it of this nature there would be more ulceration, more destruction of tissue, and whatever constriction there might be would be of the nature of cicatricial contraction rather than of a diffuse infiltration.

There has been described by Fournier a diffuse gummatous infiltration of the rectal wall, under the head of ano-rectal syphiloma, which might somewhat resemble this. But, again, we have no syphilitic history, and that disease is a very rare one.

Thus, then, we are forced to the diagnosis of cancer, and I may say that at first this was the most probable diagnosis. When a patient of this age tells you that, having been free from all rectal disease till a few months ago, he is now passing blood and pus, losing flesh rapidly, and having pain and difficulty in defecation, the chances are that, if he has stricture, it is malignant.

I have been thus careful in eliminating the varieties of non-malignant disease in this case, because it is not one in which a mere digital examination is sufficient for a positive diagnosis of cancer, as many are. The practiced finger soon learns to detect cancer in this part of the body almost without the aid of any history; but here we have the disease at an early stage, showing itself rather by an infiltration and thickening of the rectal wall than by masses of new growth and destruction of tissue, which are characteristic of a later period. The case goes far to illustrate the point made by Cripps, that the disease often shows itself as this does—first, by a band of submucous infiltration in the form of a cuirass, and later by the breaking down of the mucous membrane over it; but you will not often see the disease in this early state.

The practical question now arises, What can we do for this man?

Two courses are open to us—radical treatment and palliative treatment which would include colotomy. If we are to try and cure the patient—that is, to remove the growth, in the hope that it may not return for many years, if at all—it must be done without delay. For, although the growth is seen thus early, within five months of the time it first attracted the patient's notice, it is a little doubtful whether even now it can be removed without opening into the urethra or bladder. This, however, I am ready to do, if, when the operation has been begun, it should be found necessary. Between this operation, with its dangers and its hope of cure, and perhaps two years of suffering partially relieved by a colotomy, we must choose. It seems to me that we should give the patient the chance of a radical cure in every case where the disease can be completely removed, as seems possible in this one. The operation, though severe and dangerous, still offers a good chance of being successful, and the man is still in good condition for its performance. I shall therefore proceed to operate by the following method:

The patient being in the lithotomy position with buttocks well raised on a firm pillow, and held so by Clover's crutch, the perinæum will first be shaved, and the rectum irrigated with bichloride solution. After dilating the sphincters and introducing a sound into the bladder for a guide, an incision will be made through the anus in the median line behind, down to the tip of the coccyx. This cut will divide both sphincters and extend into the rectum to within half an inch of the lower border of the mass to be removed. With my left index finger in the gut the bistoury will next be entered behind the growth and pushed along the cellular tissue outside the bowel till its point is fully half an inch above the upper limit of the disease, and the first incision will be made to extend to this depth and tightly packed with sponges without stopping to tie vessels. Next, with this pair of straight, blunt-pointed, long scissors, the rectum will be cut completely around by a circular incision half an inch below the growth and between it and the sphincters. Then, with my finger as a guide still in the diseased cylinder to be removed, you will see me cut boldly into the cellular tissue of the ischio-rectal fossa and through the levator ani, first on the right and then on the left side, till the bowel has been completely separated from its attachments on all sides except anteriorly and to a point at least half an inch above the disease. You will see that by bold cutting this part of the operation will take only a few minutes, and, as fast as the incision is made, the wound will be tightly packed with sponges to prevent bleeding. The next step is a careful dissection of the rectum from its anterior attachments, and this may or may not take some time, depending upon whether the disease has or has not involved the deep urethra or the base of the bladder. I am much in hope, for the patient's sake, it has not; and in that case the handle of the scalpel and the fingers will soon separate it to the height of the other incision. Having done this, the rectum will be seized well above the disease with a strong forceps, to keep it from retracting, and the diseased portion cut off still in its original cylindrical shape. This part of the operation, provided we meet with no complications, should not consume more than ten or fifteen minutes, and you will see that, though perhaps six or eight ounces of blood may be lost, the hæmorrhage will all the time be perfectly under the control of my assistants with their sponges. These may now be removed and all bleeding points secured. The next step will be to draw the upper end of the bowel down as near to the lower as may be without too much tension, and fasten them either close or near together by a few strong silk sutures. Nothing in the way of a complete apposition and suturing will be attempted, the idea being not to get union by first intention, as the Germans do, but simply to bring the ends as near together as may be, so that the intermediate place to be filled up by granulation may be as short as possible. Having fastened the two ends in this way, I shall put in three deep silver sutures in the posterior incision and leave them without tightening, or drawing the sides of the cut together. This deep posterior cut, though it is the key to the operation, takes many weeks to heal, and, although I believe it much safer to leave it open for the first week so that there may be perfect drainage and free discharge, I hope to secure union by granulation at the end of this time by scraping the two granulating surfaces lightly and tightening the silver wires to hold them in close apposition. The wound will then be irrigated with weak bichloride till all clots are removed, packed with this old-fashioned coarse charpie, which you see me use so constantly, dusted over with iodoform, and covered with an antiseptic dressing.

You observe, gentlemen, that the removal of the diseased portion of the gut has taken just sixteen minutes, and that fully one half of that time has been spent in a careful separation of the prostate and base of the bladder. Also that, so far, we have tied no vessels, depending solely on pressure to control the bleeding, which has been slight. Removing now the sponges, only a few bleeding points are seen, and these are secured with forceps. Only one of them requires a ligature. This is less bleeding than you will ordinarily encounter, but generally half a dozen ligatures are ample.

The wound is next thoroughly irrigated, the upper end is attached to the sphincters by five sutures in front and at the sides, a drainage-tube is inserted each side of the rectum, the provisional wire sutures are introduced and left loose, the wound is packed with iodoform gauze and covered with an antiseptic dressing, and the operation completed. You will have ample opportunity to watch the result, which I think will be good, leaving the patient with sphincteric power and without a stricture. As soon as contraction is observed during the healing we shall begin the daily use of bougies, leaving them in three or four hours each afternoon, or possibly allowing the patient to put them in at night before going to sleep and remove them in the morning. In this way any undue contraction can be prevented.

NOTE.—The patient recovered from the operation without accident, the temperature rising to 101·8° F. on the second day and then rapidly returning to normal.

Original Communications.

ON THE TREATMENT OF ECZEMA IN ELDERLY PEOPLE.*

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WHILE eczema attacks those of all ages, from the cradle to the grave, it exhibits very different phases in different individuals and under different conditions, and varies also very considerably in different periods of life. So multiform are its phenomena, so diverse its causations, and so varied are the therapeutic requirements of eczema in all its aspects, that the disease is really a study by itself, and its management will often tax the knowledge and skill of the practitioner to the utmost.

The subject of the treatment of eczema being a very large one, it has occurred to me that a brief consideration of a certain portion of it might not be without interest, as thereby more definite statements could be made which might be of more practical value than would be the case if the entire subject were treated of.

Having already considered the subject of infantile eczema before this society some ten years ago,* it seemed desirable to now present the disease at the opposite period of life—namely, as it affected elderly people. In the former paper it was regarded as it appeared during the formative stage of life; we now study it during the period of decadence of the system.

In the former essay the period of the first five years of life was arbitrarily taken as that when the disease was designated "*infantile eczema*," because during that time there were conditions different from those existing later in life; in like manner, in the present study, the age of sixty years is arbitrarily taken as that from which on, the subjects will be considered "elderly people," because by or after that time changes take place in the tissues which render them somewhat different from those found in younger individuals; the microscopic alterations found in the integument of the aged are well known, and these changes are expressed clinically in the dry, shriveled, and wrinkled skin of old age, in the tendency to atrophic processes, with loss of hair, and in the production of warty growths and epithelioma.

Between those two periods of infantile eczema and senile eczema we can easily make two other clinical groups which exhibit more or less distinctive peculiarities—namely, those cases occurring in persons between five and twenty years of age, when the tissues are soft and pliable, to which the term *developmental eczema* might be given, to represent that stage of life when the child is developing into the adult; and another group where the disease occurs in persons between twenty and sixty years of age—namely, in those in full life, before any of the later changes have taken place in the skin.

The present study on eczema is based on cases seen in private practice, together with those treated in my clinic at the New York Hospital, as other statistics are not available at the moment.

In looking over my record of office patients I find 2,166 cases of eczema among 7,089 cases of general skin diseases, or just thirty-one per cent. of all cases; at the New York Hospital there were 898 cases of eczema among 3,790 miscellaneous skin cases, or twenty-four per cent. The ages of these patients are exhibited in the following Table I:

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* Read before the New York State Medical Society, February 5, 1890.

* On the Management of Infantile Eczema, Trans. of the Med. Soc. of the State of N. Y., 1880.

Ages of 3,064 Patients with Eczema in Private and Public Practice.

AGES OF PATIENTS.	PRIVATE.			PUBLIC.			Grand total.	
	Male.	Female.	Total.	Male.	Female.	Total.		
6 mos. and under.	48	32	80	11	15	26	106	Infantile eczema, 412. 13·44 per cent.
6 " to 1 year..	35	13	48	16	9	25	73	
1 year to 2 years..	30	30	60	11	13	24	84	
2 years to 3 years.	26	21	47	15	10	25	72	
3 " " 4 " .	11	17	28	10	10	20	48	
4 " " 5 " .	7	10	17	9	3	12	29	
5 " " 10 " .	36	42	78	14	30	44	122	Developmental eczema, 391. 12·76 per cent.
10 " " 15 " .	22	47	69	16	18	34	103	
15 " " 20 " .	41	73	114	29	23	52	166	
20 " " 25 " .	62	86	148	52	29	81	229	Intermediate eczema, 1,950. 63·64 per cent.
25 " " 30 " .	92	96	188	64	23	87	275	
30 " " 35 " .	129	66	195	40	31	71	266	
35 " " 40 " .	135	69	204	42	30	72	276	
40 " " 45 " .	124	63	187	32	39	71	258	
45 " " 50 " .	113	67	180	35	36	71	251	
50 " " 55 " .	97	54	151	32	37	69	220	
55 " " 60 " .	90	41	131	23	21	44	175	
60 " " 65 " .	67	31	98	12	10	22	120	Senile eczema, 311. 10·15 per cent.
65 " " 70 " .	48	14	62	14	7	21	83	
70 " " 75 " .	34	11	45	10	5	15	60	
75 " " 80 " .	16	6	22	6	3	9	31	
80 " " 85 " .	4	4	8	1	1	2	10	
85 " " 90 " .	2	2	4	...	...	...	4	
90 " or more...	2	...	2	...	1	1	3	
Totals	1,271	895	2,166	494	404	898	3,064	

The males are here seen to be considerably in excess (1,765 males to 1,299 females), they forming almost sixty per cent. of the whole number analyzed; and a close study of the table further shows that the relative proportion of the two sexes differs very greatly at different periods of life.

Thus, while, especially in private practice, during the first ten years of life, the numbers of each sex were nearly equal, during the next ten years (in private practice) the number of the females was almost double that of the males; also, during the period from twenty to thirty the numbers were not far apart, whereas between thirty and forty years of age the males were almost double in number to the females, the reverse condition to that seen between the ages of ten and twenty; other periods of life show also important peculiarities.

The relative frequency of the disease at varying ages is also interesting, as seen in the table. Thus, considering the number of individuals living at different ages, eczema appears to be very much more frequent in the decade between thirty and forty years of age than in any other time of life. The total number of cases in this decade was also actually the greatest by considerable occurring during any like period—namely, 542, or 17·68 per cent. of the entire number. Infantile eczema even presented a much smaller proportion—namely, only 13·44 per cent., and even during the first ten years of life there was a smaller number of cases of eczema, only 534. Of course multitudes of children with infantile eczema are never presented for treatment, but, considering the large number of infants alive during that period, this proportion is still very small.

Looking down the table, we find that the numbers steadily decrease from the age of thirty-five to forty years, as would be expected with the diminishing numbers alive, but that the numbers after the age of sixty years still form not an inconsiderable proportion of the whole. We here have 311 cases, or 10·15 per cent. of the entire number, which fall within our designation of "elderly people"; if we take the age from fifty years, we find 706 cases, or about one quarter of the entire number—surely a very large proportion, considering the smaller number of persons alive after this age.

It is a little interesting to note the great excess of males during this later period of life, they forming about seventy per cent., or almost three quarters of all the cases. This greater frequency of the disease in males during the declining years of existence is not very difficult to explain. In the vicissitudes of life men are in general more exposed to the effects of heat and cold than the mass of women, and the skin would be expected to suffer to a corresponding extent when it was weakened by old age. A more efficient element, however, is probably found in the effects of previous indulgence in food and drink, and also in the imperfect kidney action resulting therefrom, and the consequent sympathy of the skin in its well-known supplemental action. Urinary and bladder troubles are more common in elderly men than in elderly women.

It will be seen by this table that eczema was observed even in very advanced life. There were 10 cases in persons between eighty and eighty-five years of age, 4 between eighty-five and ninety, and in 3 it was observed at over ninety years of age.

It may be interesting now to note very briefly the relative frequency of eczema in the various periods of life when compared with the actual number of persons living at the different ages.

Table II.

Comparison of the Percentage of Eczema Patients at Different Ages with the Percentage of Individuals alive at those Ages, as shown by the Census.

AGES.	Per cent. of ages of all persons.	Per cent. of ages of eczema patients.	Comparison of percentages at different periods.
			All persons. Ecz. patients.
Under one year....	2·2	5·8	Infantile eczema. 9·7 %. 13·2 %. Childhood.
1 year to 2 years ..	2·0	2·7	
2 years to 3 years..	1·9	2·3	
3 " " 4 " ..	1·8	1·5	
4 " " 5 " ..	1·8	0·9	
Total.............	9·7	13·2	
5 " " 10 " ..	8·7	4·0	Developmental eczema. 25·3 %. 12·7 %. Youth.
10 " " 15 " ..	8·4	3·3	
15 " " 20 " ..	8·2	5·4	
20 " " 25 " ..	7·9	7·4	Intermediate eczema. 51·7 %. 63·64 %. Middle life.
25 " " 30 " ..	7·5	9·0	
30 " " 35 " ..	7·2	8·6	
35 " " 40 " ..	6·7	9·0	
40 " " 45 " ..	6·3	8·4	
45 " " 50 " ..	5·9	8·1	
50 " " 55 " ..	5·4	7·1	
55 " " 60 " ..	4·8	5·7	
60 " " 65 " ..	4·1	3·9	Senile eczema. 12·2 %. 10·2 %. Old age.
65 " " 70 " ..	3·3	2·7	
70 " " 75 " ..	2·4	1·9	
75 " " 80 " ..	1·5	1·0	
80 " " 85 " ..	0·7	0·3	
85 " " 90 " ..	0·2	0·13	
90 " and over...	0·07	0·09	

For this purpose recourse has been had to the "Life Tables" upon which life insurance is based, and the number of those living at different ages has been reduced to a uniform percentage and placed in a column parallel with the percentage of patients with eczema at each period. These percentages are shown in Table II.

Here we see that, while the general percentage of lives under five years of age is 9·7, that of eczema patients was 13·2. In the next five years the proportion falls greatly—from 8·7 of children alive to 4 of those with eczema. The proportion falls again, and then, between twenty and twenty-five years of age, the figures are about equal, when it rapidly rises. The largest proportion is there found between thirty-five and forty years of age, when for 6·7 per cent. of population there was 9·0 per cent. of eczema, or almost exactly the same proportion of eczema cases to those living as was observed in infantile eczema. From this point the relative frequency of the disease diminishes until, during the period of "senile eczema," the proportion is somewhat below that of the number of persons alive at this time of life.

The eruption of eczema in elderly people does not differ essentially in its nature from that observed in other periods of life, and at one time or another may present almost all the appearances occurring in younger persons. But the eruption in elderly persons is much more apt to be chronic and to slowly attack one part after another, until great areas become involved, and occasionally a large share of the surface of the body may become the seat of eczema, with a red, infiltrated tissue, the seat of unbearable itching and covered with the marks of scratching. In this boils frequently develop, adding greatly to the suffering of the patients.

Eczema is very common about the face in elderly persons, and there generally takes the erythematous form, with a dull, purplish-red appearance, a dry, harsh surface, and much thickening of the skin, with intolerable itching; these cases are often wrongly called chronic erysipelas.

Eczema of the genital regions is sometimes very distressing both in elderly men and women; in the latter it is frequently dependent upon irritating vaginal discharges, and in both sexes it may be due to glycosuria. Eczema is also frequent on the backs of the hand in thickened patches in elderly men and women.

The causes of eczema in elderly persons are difficult to determine with any certainty; in a large share of instances the eruption seems to develop without any particular exciting or even predisposing cause. Certainly local causes play a very insignificant part, and are rarely charged with the production of the eruption.

In but a small share of the cases here analyzed was there any hereditary element traceable, and in but few of the patients was the disease of very long standing or the result of eczema early in life. In the far larger share it developed *de novo* during the later years, although in a few instances it was recorded that the patient had suffered from the complaint since earliest recollection, with more or less interruptions.

The chief elements of causation in eczema of elderly people seem to be a debility of tissue, rendering it everywhere prone to take on inflammatory or degenerative action, and, as an early or internal cause, a certain faulty kidney action.

The urine of these patients is generally found to be rather scanty when measured, although a frequency of micturition will sometimes seem to indicate an excess of the secretion. The specific gravity will commonly be found above normal, and deposits of urates are not at all infrequent.

It is also not very uncommon to find more or less sugar in the urine of these patients, this being occasionally a transient condition and quite removable by treatment.

Deficient or imperfect bowel action is also a common condition in elderly persons with eczema, and the eruption will often be seen to vary exactly in proportion as the functions of the bowels and kidneys are performed.

These facts give us the basis of treatment, and must always be considered, not only once or twice, but repeatedly and continually in the course of the management of eczema in elderly people in order to conduct a case to a successful termination. Local treatment, tonics, arsenic, or any measures will be of only moderate or temporary value if these functions are not properly performed.

But, on the other hand, considerable care must be exercised in securing this end, and all treatment looking in that direction must be supplemented by proper tonic measures, for eczema is a disease of debility in elderly people as well as in those of younger life. Purgation and diuresis will not cure eczema, although, when properly employed, they may aid considerably to that end.

It is needless to say that these measures must be used carefully, and the aim must be to induce a regular, daily free discharge from the bowels, and a uniform excretion of as normal urine as possible.

At the beginning of treatment, and also occasionally during its course, nothing gives more relief to the system and the eruption than the use of the well-known pill of blue mass, colocynth, and ipecac, often recommended by the late Dr. H. D. Bulkley and the writer. Very commonly one of these pills is sufficient, but it should always be repeated on the second night afterward; some patients will do well to repeat the course at the end of each week or ten days. For more constant use, a pill of aloes and iron, before each meal, as required, serves the purpose excellently well, or in some persons, where there is special tendency to poor liver action, a minute dose of calomel, even one tenth of a grain, before meals, and at bedtime if necessary, will do much toward removing the eczema.

For the imperfect kidney action no remedy is more valuable than the acetate of potassa; while not so agreeable to take as the citrate, my experience with both leads me to decidedly prefer the former. It need not be given in large doses; ten to fifteen grains daily after meals, with nux vomica, in a bitter infusion, as quassia, serves a most excellent purpose, and will almost always be followed by marked improvement of the eruption.

Iron must be used rather sparingly, but, after a short course of the above, will often prove most serviceable; but this will need occasionally to be suspended and the former given. The mixture of sulphate of iron, sulphate of magnesium, and sulphuric acid, known as Startin's mixture, will often prove of the greatest service in eczema of elderly persons, especially in those exhibiting any tendency to glycosuria; strychnine may occasionally be added to it with advantage.

Arsenic is rarely required or of value when used alone, but in combination with iron and other remedies it will sometimes seem to aid in the case. In certain rare instances, however, where a bullous or pemphigoid condition develops in eczema patients it will prove invaluable, and will arrest the formation of blisters completely. To be of real value it must then be used with a free hand and fearlessly, given every two or three hours, alone, in quantities sufficient to produce the desired effect; beginning with three drops, the dose may be increased by half a drop every other dose until five, seven, eight, or more drops are taken at least six or eight times daily, and sometimes it may even be necessary to give a trifle of opium with each dose to check its action on the bowels. When thus given, apart from meals, the remedy should be largely diluted, in one third to half a goblet of water, and where there is much acidity of the system it is desirable to use Vichy or an alkaline water, such as the Buffalo or Londonderry lithia. But, as remarked before, arsenic does not control the eczema, but only the bullous condition alluded to, and should not be commonly prescribed for ordinary cases.

Quinine is often of great service in eczema in elderly people, both to meet the malarious condition often at the bottom of the trouble and as a pure tonic. It is generally best administered in two- or three-grain doses a quarter to half an hour before each meal, the acetate of potassium being taken after the meal.

A direct neurotic treatment is seldom required in elderly people with eczema; strychnine and phosphorus may in certain cases be indicated, but more commonly in connection with or after the alkaline and diuretic treatment previously indicated.

Sedatives are, however, often of the greatest assistance, and are frequently required to secure proper rest at night. For this purpose, phenacetin in five-grain doses, taken with hot water on retiring, often acts admirably, the dose being repeated in an hour if necessary; antefebrine in six-grain doses, similarly used, is also often of service. Tincture of gelsemium, ten to twenty drops, with a drop of aconite tincture, will often secure perfect rest, even when it has long been disturbed by itching; it may also be repeated in an hour if necessary.

Alcohol is a substance about which it is difficult to speak in general terms in connection with the class of cases which we are considering, for individuals differ so greatly both in regard to its effects upon them and as to their antecedent habits respecting its use, that no hard and fast rules can be given. In general, however, it may be stated that the eczema patient is far better without any alcohol, and, unless it seems to be required, he will suffer less from the eruption, the latter will be more easily cured and less likely to return if he abstains totally than if he uses ever so small a quantity. This refers both to the stronger liquors—whisky, brandy, rum, etc.—and also even to the milder wines and malted liquors. In the large majority of cases tonic and stimulating effects can be better produced by means of food and articles called medicinal than by any of the preparations containing alcohol. The fermenting substances—ale, beer, porter, also the sweeter wines and champagne—are particularly bad for these cases.

But, on the other hand, care must be exercised in withdrawing alcoholic stimulants from those accustomed to them, and in many instances it is better to allow a certain small quantity of the pure distilled liquors, properly diluted, with the meals, than to deprive them of the same; but if they can be gradually diminished and finally withdrawn with safety, the prospect of a speedy cure will be much improved.

Diet has somewhat to do with eczema in elderly persons, although to a much less extent than in early life. Tea and coffee may generally be taken in moderation, and an ordinary mixed diet of healthful character may be allowed. But in elderly persons, who are taking less and less exercise, the diet should be correspondingly diminished, as has been so admirably shown by Sir Henry Thompson.[*] The tendency is too often to urge on the patient to take what is commonly called strengthening food, and so the digestive organs are taxed with more than the body requires and can digest, assimilate, and use, and thus the system is loaded with imperfectly elaborated products while the emunctories are less able than before to rid it of effete substances; for it must be remembered that in advancing age there is no material required for building up the organism and solidifying the tissues, but only sufficient to make up for the amount expended in daily energy, which at this period of life is daily lessening.

In all this it is not to be supposed that there should be the least lowering of the system, for, as before remarked, eczema is always an indication of lowered vitality; but care should be exercised that in the attempt to "build up" the patient the real result may not be an overloading, which in the end means harm.

The *local treatment* of eczema in elderly people is a most important element, and will often call for great care in its selection and employment. It is to be remembered that the skin is very delicate and sensitive at this period of life, and that it is very easy to err on the side of strong applications, so that the measures must be mild, certainly at the beginning and until the condition of the individual is perfectly understood.

The local treatment will, of course, vary greatly with the location and character of the eruption present. For generalized eczema, and that on the trunk and limbs, no application is more comfortable and soothing than the well-known one of calamine and oxide of zinc, to which carbolic acid is to be added in varying proportions, according to the amount of itching present (℞ Pulv. calaminæ præp., ʒ ij; zinci oxidi, ʒ iv; acidi carbolici, ʒ j to ʒ ij; glycerini, ℥ j to ℥ jss.; liq. calcis, ℥ j; aquæ rosæ, ad ℥ viij). Sometimes the alkalinity of the lotion is best effected by borax or carbonate of magnesium, and, when more astringency is required, two to four drachms of salicylate of sodium may be added to the lotion. This is to be freely sopped over the surface several times daily, or as often as required to allay itching and burning heat, the powder in it being allowed to adhere to the skin, and the part covered only with the ordinary clothing. When there are any exuding surfaces, a trifle of absorbent cotton, loosely pulled apart, may be lightly laid on and allowed to adhere; this then comes off on the next application of the lotion, without doing violence to the part, for dressing should never be torn from these raw surfaces. As the treatment proceeds, the raw points lessen in number and size, until the application of the fibers of cotton ceases to be necessary. Care must be exercised, in applying this cooling lotion to a surface of any extent, not to chill the body too greatly, lest serious consequences might ensue in the way of internal disorders or inflammations.

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[*] Thompson, Diet in Relation to Age and Activity, London, 1887.

On more localized patches, especially where there is thickening of tissue with great itching, complete relief can generally be obtained by the use of tar-and-zinc ointment (℞ Zinci oxidi, ʒ j; ung. picis, ʒ iv; ung. aquæ rosæ, ℥ jss.) when properly applied. This should be thickly spread on the woolly side of pieces of sheet lint, cut to fit the separate patches; these are then firmly bound upon them with a light cheese-cloth bandage, and removed once or twice in twenty-four hours. It is often better to use the same pieces of lint for several applications, spreading fresh ointment on them at each renewal. Where the thickening resists the tarry application, a quarter part of diachylon ointment may be added to the above; in still more rebellious patches a little salicylic acid, ten to twenty grains to the ounce, will aid in the absorbing power.

Ichthyol and resorcin I have not found of much advantage in the eczema of elderly people, except occasionally in obstinate erythematous eczema about the crotch; here a two-per-cent. or three-per-cent. solution in water, with a little alcohol, wiped over the surface once or twice daily, followed by the calamine-and-zinc lotion, will sometimes aid in its removal.

In eczema about the head and face about the most serviceable application is that of a tannin-and-carbolic-acid ointment (℞ Acidi tannici, ʒ j; acidi carbol., gr. v to x; ung. aquæ rosæ, ℥ j), kept continuously applied, and renewed as often as it is rubbed off or soaks in. In some of these cases a calamine-and-zinc ointment, with camphor (℞ Pulv. calam. præp., ℈ j; zinci oxidi, ʒ ss.; tinct. camph., ʒ ss.; ung. aquæ rosæ, ℥ j), will prove more soothing.

In all cases of eczema in elderly people the greatest care must be exercised in regard to the application of water to the skin; it is well to remember as an axiom that water is poison to an eczematous surface, and should only be used when absolutely necessary, and also that exposure to the air is equally injurious. And in regard to this subject the physician and patient will often differ, but to get success the rules of treatment must be diligently and rigidly enforced. Daily washing of an eczematous surface will almost always retard the cure; indeed, in many cases this will be the main obstacle to the cure of the eruption. Not infrequently the same local application as previously used will be found sufficient when it is rightly and efficiently employed. In some cases it will be found desirable to abstain from the ordinary use of water for cleansing for days or even weeks. The applications then are simply renewed, without cleansing the parts other than gently wiping off the diseased surface with a dry cloth, or carefully removing crusts which may have become loosened, replacing the application with the least exposure possible.

When cleansing or stimulation is required, nothing is better than the well-known green soap—a potash soft soap, the sapo viridis of the Pharmacopœia; but even this is subject to abuse, and, if used wrongly or too freely, may also do harm instead of good. It may be employed alone, or in watery solution, or in alcohol, in the proportion of two parts of the soap to one of alcohol. This dissolves any greasy substances and removes epithelial matter very readily. But it should be lightly applied, diluted at the time of using with some water, the part quickly dried, and the appropriate ointment or lotion at once replaced. It is well to direct carefully that the cleansing should be undertaken only at stated intervals, often only every few days, to allow the resulting stimulation to subside before the next manipulation.

The impression is very general that Castile soap is valuable for washing in eczema, but, on the other hand, it is commonly very prejudicial, and, being a soda soap, will generally irritate a delicate and inflamed skin. With the exception of tar soap, which is occasionally employed, I may say that medicated soaps are a delusion, and practically are of exceedingly small utility in eczema or other diseases of the skin.

Baths are often thought to be of much service in eczema, but my experience is that, unless most carefully and judiciously used, they effect, as generally employed, infinitely more harm than good in this disease. One of the worst cases of general eczema which I have ever seen is in the person of an elderly gentleman in whom a moderately localized eruption became irritated so that the whole body and limbs were the seat of a terrific eruption after taking a few sulphur vapor baths. I have also seen Turkish and Russian baths produce most unhappy effects.

Time fails to consider this subject more fully and also to speak of the results from the use of mineral springs and bathing, which I have already discussed elsewhere * quite lately. Suffice it to say that these must be recommended and employed with great care and judgment, for they are often capable of much harm. I have seen many cases illustrating this, and have now under my care a gentleman nearly seventy years of age in whom eczema developed steadily and very severely under the treatment given at a well-known institution at one of our mineral springs; and also another case in an elderly lady, in whom eczema spread from a small eruption on the neck and scalp, under like conditions, at a "Spring Sanitarium," until the entire surface was the seat of a moist eczema, which, however, yielded quite promptly to proper treatment.

But occasionally general baths are required in these

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* Medical Record, Jan. 4, 1890.

cases, and where there is not much moist surface they may be given with advantage, if properly employed. But, as before mentioned, water, as ordinarily used, is irritating to eczematous skins, and in bathing it is necessary to modify it by the addition of certain substances. For this purpose starch, one to three pounds to a thirty-gallon bath, or a pound or two of gelatin, may be used; the old method of using bran, in a bag, soaked in the bath, is good, but frequently fails to produce enough of a demulcent effect.

Alkalies added to the bath are also of service, and that which experience has shown to be of most value is a combination of carbonate of potash, four ounces; carbonate of soda, three ounces; and powdered borax, two ounces, in the thirty-gallon bath, with a pound or two of starch.

Even when thus prepared, the baths should not be taken too frequently, and it is generally well to wait several days between them—certainly until their effect in the particular case is well determined; the temperature of the bath should be such as to be agreeable—about that of the body, or a trifle warmer—and the duration not more than fifteen or twenty minutes. On coming out of the bath the skin should be dried, with as little friction as possible, with heated towels, and a medicated application made to the affected parts as quickly as possible, remembering still the irritating action of the air on diseased skin.

In returning to the use of common bathing some little care must be exercised as the diseased surface returns to its normal condition, for harsh treatment can often cause the reproduction of an eczematous surface after it has been once restored to health.

The *prognosis* of eczema in elderly people is much more favorable than is commonly supposed. The disease is certainly curable in a large share of cases if only the proper means are employed, and in my experience it is little, if any, more rebellious in elderly people than in those in earlier life. Indeed, it often seems to yield even more readily in them than in younger persons, because the active elements of its production—overwork and nervous strain—can be controlled, and, moreover, these patients are commonly more willing to submit to the restrictions necessary for its cure than are many in the more active and engrossing periods of life.

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RESISTANCE TO AND RECOVERY FROM DISEASE.

A RÉSUMÉ.[*]

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The question of immunity and recovery from disease has occupied the minds of medical men every since the dawn of history. In one form or another it has been recognized that there are two opposing forces at work in any case of disease—the malignant tendency of the malady, and the resisting power of the victim's organism. Even the most savage and uncivilized races seem to have a glimmer of this clinical fact.

The microbian pathology seemed to define and materialize the morbific power of various contagious or infectious diseases, but in the hot pursuit of the pathogenic bacterium men without scientific training and, still worse, those without mental equipoise seized upon the new discovery as an excuse to rush before the medical world with all manner of fantastic deductions. With no consideration of long-established and well-known clinical facts, they attempted to explain everything and anything in the light of bacterial science. If they could not make their theories conform to the clinical facts, so much the worse for the clinical facts and for the clinicians. The latter must throw away the fruit of the observations of centuries or incur their contempt.

Practically the science of modern bacteriology began the heyday of its existence, the vigor of its youth, with Koch's great discovery. Thereupon wild enthusiasts rushed away with all sorts of theories, and for a time the library microscopist and the lecture-room bacteriologist kept up such a storm of articles and reviews and lectures that the simple statement of the fact was almost buried beneath the rubbish of their speculations and deductions. The *Bacillus tuberculosis*, the *Staphylococcus pyogenes*, the anthrax bacillus, and their congeners form a link, and an important link, in the chain of our knowledge. From actual research we know that sources of infection are everywhere. The germs of phthisis, diphtheria, typhoid fever, septicæmia, lurk everywhere in the ordinary pursuits of life. We carry them about with us on our skins and mucous membranes. They float in the air we breathe, they swim in the water we drink, they burrow in the food we eat, but the number of their victims bears no proportion to the number exposed to their attacks.

It has been proved that the intact mucous membrane and the skin offer great but not perfect resistance to the inroads of bacteria. This of course is a great protective factor in the resistance of the animal organism. Abrasions of the skin, desquamations of and solutions of continuity in the epithelium lining the mucous membranes of the respiratory and digestive tracts, are too numerous and frequent for them to act as an efficient guard against the almost omnipresent enemy. The movements of the cilia on the ciliated epithelium, the acid of the gastric juice, the various lymphatic glands and internal organs proved to some extent to act as a bacterial filter (1) for the general circulation—all these are insufficient to explain the relative immunity of the majority of the animal kingdom from various infectious diseases, since the agents of these diseases have been proved in many cases to be microbes whose presence is not by any means confined to the body of the infected animal.

Although it is usually lost sight of by those whose work is devoted exclusively to laboratory research, the self-evident remark has often been made that the human body is not a test tube either in a chemical or a bacterial sense. Practically, infection is not carried and disease is not caused by injecting countless myriads of pathogenic bacteria under a man's skin or into his veins with a Pravaz syringe. It has been calculated (2) that it takes a billion staphylococci to kill a rabbit with septicæmia. In other words, a healthy rabbit's organism is able to cope successfully with a smaller number. Another experimenter (3) has calculated that it takes about 820 tubercle bacilli to kill a guinea-pig, which is the most susceptible to tuberculosis of any animal with which we are acquainted. What man's resistance to the inroads of disease, when in a condition of health, is, we of course do not know with anything like this exactness, but we are almost certain of the fact that in the vast majority of cases no such dose as that suggested in the figures above ever finds its way into the body of any man at one time.

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[*] Read before the Hospital Graduates' Club, March 20, 1890.

From circumstantial evidence we have every reason to believe that many a tubercle bacillus finds its way into our lungs without producing tuberculosis. From our experience at the post-mortem table, we know that many a one takes a start in life there, produces a large and interesting family, but is finally exterminated root and branch, and leaves behind him only the cicatricial or calcareous marks of his former habitation.* We don't all die of septicæmia from a boil, or of typhoid fever when we have it. We are even occasionally able to cope with the onslaught of the deadly anthrax. Indeed, as the gentleman from Tipperary remarked: "We recover from all diseases but the last one."

Hardly less striking is the clinical fact that some individuals seem incapable of contracting the contagious diseases with which their companions under similar circumstances are infected. If we find differences in individual susceptibility to certain diseases, the difference becomes more marked as we pass in animal life from the individual to species. White mice are absolutely immune from glanders, the rat from anthrax. The house mouse is absolutely immune, and dogs and fowls are relatively immune from tuberculosis.

Facts such as these, evolved from clinical experience and careful experimental research, point irresistibly to the assumption that there is some guardian influence or influences which as a rule annihilate the occasionally deadly microbes. There is something definite of a chemical or biological nature which makes up the entity to which the good old phrase—*vis medicatrix naturæ*—refers. The cause of disease, as we observe it clinically, is complex. We note not only the exciting cause, as, for example, a bacillus; but the predisposing cause, as, for instance, a generally low vital condition of the system. There then follows the inference that this protecting and healing influence must vary in degree. The examples of relative and absolute immunity from diseases observed clinically in man and proved experimentally in animals † point to this.

The old question is still asked: "Why does Mr. Jones die of phthisis? Why does Mr. Smith recover? Why does Mr. Brown escape it altogether?" The lecture-room bacteriologist gives back the ringing answer: "Mr. Jones's lungs were a good culture medium, and Mr. Smith's a poor one, while Mr. Brown's afforded no sustenance to the bacillus at all." * All this we heard *ad nauseam* a generation or two ago, only couched in different language. "Mr. Jones had a scrofulous diathesis, Mr. Smith had a stronger constitution, while as for Mr. Brown, he never had any consumption in his family at all." Like many such an answer, it only satisfies the novice long enough for him to parse the sentence.

We know that there are certain bacteria—such as anthrax—which will not grow in the frog's body partly on account of the low temperature; some which can not grow because of the presence of certain other conditions with which we are familiar. Some will not grow when exposed to the air. Some need the air. Some will not grow on nutrient gelatin. Some, and in fact the majority, need an alkaline or neutral culture medium. Some will not grow outside of the animal body at all. But this knowledge helps us very little, although it gives us a clew to the direction in which we are to work. We know that environment has a very great influence upon the resisting and recuperative powers. There is an instance (4) on record where fourteen clerks out of the twenty-two employed in a small office with poor light, bad ventilation, and worse pay, died of phthisis in a very short time after the first case occurred. We send our phthisis cases away to the woods, or to high altitudes—nay, even the change from the city to the country is almost certainly followed by some benefit.† If you inoculate rabbits (5) with tuberculosis and coop them up in a dark cellar, they will, as a rule, die, while, when they are turned out upon an island and given the benefit of fresh air, light, exercise, and proper food, they often recover from their tuberculosis and the points of inoculation become encapsulated and calcareous.‡

It has been shown (2) that by injecting glucose into the blood of rabbits it is possible to reduce greatly the number of staphylococci necessary to kill the healthy animal with septicæmia.# It has been possible to render white mice, otherwise immune, susceptible to glanders (6) by feeding them on phloridzin, which causes sugar to appear in the urine. We have a clinical illustration of the effect of sugar in the system in the readiness with which diabetics contract other disease—noticeably septicæmia—yet the surgeons tell us that by the most rigid and careful antisepsis it is possible to make wounds heal as readily in diabetics as in healthy persons.

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* Bollinger, Michelson, Vibert, and others have found evidences of latent or cured tuberculosis in one out of three to five bodies examined by them. *Vide* ref.: Baumgarten's Jahresbericht, 1888, i, p. 186.

† It was found in Bollinger's experiments that it took more tubercle bacilli to kill some guinea-pigs than others.

* I know that a different answer has been given by a very industrious worker who practically claims that the man who escapes, escapes not by virtue of any resistive power of his own organism, but because he has escaped contact with contagion. Cornet's work is a valuable one, but there are few practical observers of tuberculosis in all its forms who will follow him in his deductions or agree with him in his conclusions.

† Charrin and Roger assert (ref., Ctrlbl. f. Bact., Bd. vii, No. 9, 1890) that animals otherwise immune can be killed with anthrax if they are subjected to muscular exercise sufficiently severe to exhaust them.

‡ It is but fair to say that the experiments referred to have been severely criticised by the extreme contagionists, and Cornet (Zeitsch. f. Hygiene, Bd. v, 1888, p. 98) did not find that great altitudes and favorable hygienic surroundings had any beneficial effect upon the course of tuberculosis artificially produced in guinea-pigs. Their great susceptibility to—*i. e.*, the weakness of their resisting powers against—tuberculosis may be urged in explanation. Moreover, what stimulated the vital powers in a consumptive man may have no effect upon guinea-pigs.

# The simultaneous injection of two kinds of pathogenic bacteria sometimes hastens and intensifies and sometimes retards and weakens each other's injurious effects. For an account of some of this work and for a short *résumé* of this part of the subject, see an article by Woodhead and Wood in The Lancet, February 22, 1890.

Closely connected with the natural resistance to and recovery from disease is the question of acquired immunity. Since the rise of the bacterial pathology the work expended upon it has been great and varied. We are still no further on the road to the solution of the problem of its *modus operandi* than we were in the time of Jenner. Before his time inoculations had been successfully practiced. By a method of dieting the system was brought into such condition that when exposed to the contagion of small-pox the patient acquired the disease in its milder form of varioloid and subsequently became relatively immune. It is reasonable to assume that the change wrought in the system by Jenner's vaccine and by the old inoculation methods were analogous to what we observe in the effects wrought on the system by the various methods of protecting the animal organism against bacterial diseases. It is a singular and striking fact that whereas many diseases of the lower animals have been successfully guarded against by inoculation procedures, it is only small-pox and possibly rabies in man in which corresponding endeavors have been successful. And it is in these two contagious diseases, together with measles and scarlatina, that the causative microbe is as yet conspicuous by his absence.

Phthisis, diphtheria, erysipelas, septicæmia, and their congeners prey upon defenseless mankind and count yearly their victims by hundreds of thousands, while over the diseases of his domestic animals—chicken cholera, hog cholera, anthrax, pleuro-pneumonia—man has become to some extent the master, being more solicitous for his wealth than for his health. So evident has been the success in this line, at least in showing possibilities, that the encouragement to continue the pursuit into the dominion of human pathology is great. The difficulties here are manifestly greater. A foolish sentimentality, or perhaps a wise and noble humanity, shuts the doors of prisons against us, and shields the condemned criminal from our clutches.* There is no prospect of the advance in civilization changing this for the purpose hinted. The progress of the human race upward in the scale of ethical and psychical development is of so much more importance than the average length of individual life that it is to be hoped public sentiment will never reach the point where our utilitarian temptations can be yielded to. Other methods, though more uncertain and difficult, still remain to us, and the dumb animals must be made to serve us still, living, dead, and dying.

The fact is undeniable that the animal system can be so prepared by exposure to gradually increasing inoculations of morbific agencies that it is finally able to overcome onslaughts which it could not previously endure. The immense doses of powerful narcotic drugs which *habitués* are finally able to take and live is a familiar example. All that is included under the term acclimatization is another. The latter, taken in its more extended meaning, is exemplified in the immunity some races acquire against disease from dwelling in unsalubrious localities for generations, as in the malaria-haunted swamps of Central Africa and America. Here we have also to do with the Darwinian principle of natural selection—the susceptible strain in the race dying out—but this is probably not an exclusive nor a chief factor in the immunity acquired. History is familiar with the result of Napoleon's Russian campaign. In a recent book of travels (7) an instance is on record where a conquering African army pursued some swamp-dwellers into the fastnesses of their miasmatic jungles. Although of kindred race, the swamp fever did for their enemies what the javelins and war clubs of the pursued had failed to accomplish. Many hundreds out of a few thousand dropped dead and dying from the previously victorious but soon retreating forces, overcome by the malarial germ of Laveran, and only a remnant of the Zulu band reached their huts again. We know how syphilis and tuberculosis seize upon a fresh race and decimate it. Our American Indians and the Sandwich Island natives have suffered more from the white man's diseases than they have from his weapons or his avarice.

The methods of artificially inducing immunity from bacterial disease all rest on one principle, as does also naturally acquired immunity. The system is subjected for a shorter or longer time to the inimical influence in a more or less modified degree. The virulence of bacterial cultures can be modified or weakened in various ways.* Cultures allowed to stand a long time lose some of their morbific power, as in Pasteur's early experiments with chicken cholera (8). Anthrax was first inoculated by subjecting the cultures a few minutes to a heat of 50° or 55° C. (9). Air pressure (10) increased to from three to thirteen atmospheres also weakens anthrax cultures so they can be used for inoculation.

Chemical substances (11), among them some of the common antiseptics, mixed in very dilute proportions with the culture media, were found to hinder the production of anthrax spores and thus make the cultures suitable for inoculation experiments. Subjecting the cultures for a long time to direct sun or electric light (12) worked in the same way. Immunity has been attained by inoculating animals with the culture media containing the products of bacterial activity—the microbes themselves having been killed by sterilization (13), while Hankin (14) has succeeded in isolating a substance which he calls albumose from anthrax cultures with which he rendered animals immune against virulent anthrax. Hoffa (15) rendered rabbits immune against rabbit septicæmia by injecting an alkaloid, derived from cultures of the bacillus, which he calls methyl-guanidin. Lastly, though not least remarkable, Hueppe and Wood (28) have lately announced that they have succeeded in rendering not only rabbits immune against anthrax, but also mice and guinea-pigs, which has never been done before, by injecting a certain harmless bacillus found in the earth and nearly related to anthrax in its growth on culture media. It has been shown (16) that animals rendered immune against the usual injections of various pathogenic bacteria can be killed by these same bacterial injections plus some of their ptomaines added to the injected matter. From this, together with the experiments upon white mice, quoted above, which became susceptible to glanders after injections of phloridzin, we see that both natural and acquired immunity is a matter of degree; that in a majority of cases it is not only a question of a larger or smaller dose, but also, on the other hand, of a greater or less resisting power.

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* I believe a criminal *has* been successfully inoculated with leprous blood.

* A very good review of the subject of acquired immunity may be found in Smirnow's part of the symposium published under Flügge's direction in the Zeitsch. f. Hygiene, 1888, iv, p. 232, and for several of the references I am indebted to it.

It is true that all of these experiments and assertions have not yet withstood the test of time and the repetition of many observers, but enough has been experimentally shown to confirm what has been long known clinically—viz., that the animal system can become accustomed, by inoculation, to the presence of, and successfully combat with, bacterial agencies which under ordinary circumstances are fatal to it. What chemical or biological change takes place in the animal organism is still as unknown as in the days of Jenner. Since the rise of the bacterial pathology several explanations have been advanced. The two most plausible ones are the retention theory and the exhaustion theory. The former supposes that when the pathogenic bacteria have once visited a system they leave behind them certain products of tissue metamorphosis which are inimical to the existence and activity of any future microbes of the same race. The latter hypothesis assumes that the substance of the organism necessary for the growth of the bacteria is used up in the inoculation and there is no food to support a second invasion. Metschnikoff's idea was that his phagocytes acquired increased power of annihilating the invading microbes after they had once been exercised upon the weakened powers of the bacteria used in the inoculation. Even supposing any or all these theories are true, they would be very unsatisfactory on account of their indefiniteness, but, in addition to this, they have been definitely disproved experimentally (17).

It seems useless to further extend the assertion and repetition of the circumstantial evidence of the real existence of a definite chemical or biological influence in the animal organism which protects it from disease. This evidence is so striking that it became an absolute necessity for the integrity of the bacterial pathology that some definite explanation should be made why we do not all die from the attacks of our microscopical enemies. It is an example of how much the need of such an explanation was felt that the Metschnikoff theory of phagocytosis spread all over the medical world with such rapidity and was received with so much interest by every one and with so much credulity by many. To this eagerness for an explanation was added the glamour of the language with which it was set forth: we heard of the rush of the standing leucocyte armies to meet the bacterial foe, the death struggle of the opposing forces at the point of invasion, the ptomaine smoke of battle, glandular forts, etc. The war-like analogy was convincing to many minds unable to follow and weigh the real evidence brought forward by the industrious and learned originator. The French school seized upon this theory with avidity. So familiar has it become to us all that it is only necessary to say that to certain cells—such as the leucocytes, the large and small cells of the spleen, the wandering cells of the connective tissue, the epitheloid and giant cells of tuberculosis, the leprosy cells, etc.—was ascribed the power of absorbing and digesting pathogenic microbes, it having been long known that some of these cells, possessing amœboid movement, have the power of taking up into themselves small foreign bodies, such as coal dust in the lungs, tattoo pigment in the skin, etc. The objections to this theory have now become so numerous and weighty that it is an almost settled fact that phagocytosis plays at least a very insignificant part in protecting the animal organism from parasitic disease.

Baumgarten (18) and Flügge (17) and their followers have pretty conclusively demolished the theory of phagocytosis, if they have succeeded in setting up nothing better. Metschnikoff was never able to prove that the pathogenic microbes are alive when the leucocytes take them up, nor that they took up anything like the majority of the bacteria. Nobody denies that the leucocytes and other cells are able to take up the dead bacteria or even those whose activity has been lost or held in abeyance. Everybody allows that they can die inside of the cells as well as out, but nothing more.

As long ago as 1881 Sir Joseph Lister at the International Congress referred to the fact that if blood is drawn from the veins of an ox and allowed to coagulate under aseptic conditions, a few drops of tap water could be added to it without setting up putrefaction, though the tap water was known to contain bacteria and the blood was allowed to stand several days at body temperature. Such a putrefactive change also failed to take place when a few drops of a much-diluted putrefied blood solution was added to the fresh aseptic blood. From this Watson Cheyne (19) drew the conclusion that a certain *dose* was necessary to set up putrefactive action. He came to the conclusion from experimental evidence that "the pathogenic dose of a virus varies inversely with the predisposition of the animal to the disease in question; in animals not very susceptible to a disease the severity of the affection varies directly within certain limits with the amount of the virus introduced. Up to a certain point the length of the incubation period varies inversely with the amount of virus introduced."

The explanation of this phenomenon noted by Lister in 1881 and by Watson Cheyne in 1886 was in the next year advanced by the work of Fodor (20), and a year later more elaborately and convincingly by the workers in Flügge's laboratory (*loc. cit.*), as well as by Buchner (21) and Nissen (22). They found that if serum was separated from freshly drawn blood of various animals under strictly aseptic precautions, it had the power of killing a very large number of bacteria. If the blood cells, however, were allowed to dissolve out their hæmoglobin in the serum by standing or freezing, this annihilating power was lost. If the serum was heated much above 52° C., about the upper limit of the range of temperature consistent with life in warm-blooded animals, the power was also lost. It was also proved that this killing of the bacteria was not due to exhaustion from a lack of food, but that there was an active disinfecting property in the blood-serum. Buchner ascribed this power to the albumin as it exists in the blood. Albumin as we know it artificially has no such power. Carbonic-acid gas (23) has also been suggested as the agent. The blood-serum of all animals does not possess this power in an equal —some not in an appreciable degree. It varies in its power on different microbes, as, for instance, Nissen found that such an important and frequent bacterium as the *Staphylococcus pyogenes* was proof against it. Other animal fluids —such as the aqueous humor, human ascitic and pleuritic effusions (24), and milk (25)—have also been shown to have this power.

These facts seem to have a tremendous significance, but uncontrolled they lead to gross error. They prove entirely too much, for the question naturally rises, "How is it we die at all if our blood-serum is such a disinfectant?"

Lubarsch (26), however, has shown that although this is true for blood outside of the body, it is very different with the circulating blood. The blood as it circulates seems to possess this annihilating power in a very inferior degree, and he suggests that in its course through the spleen, liver, and bone-marrow the red blood-cells are many of them broken up, and thus furnish free hæmoglobin as food to the bacteria or as a repressing agent to the protective influence.

It is too early to say yet how much weight we are to attach to all this. Metschnikoff says (27) the advancers of this theory do not take into account the matter which may have exuded from the leucocytes in the process of separating them from the blood-serum. There are other and more serious objections which will occur to the careful reader of their assertions, but a new field has been opened for investigation, and as yet we only perceive the direction in which it leads, its extent being unknown.

Our deplorable ignorance of physiological chemistry stands ever in our way when we have to deal with problems such as this. Sir Henry Roscoe prophesied several years ago that it was in this direction that the next great advance in our knowledge of Nature's laws would be made. It is to be hoped that workers are being trained for this fertile field. As it is now, the number of men capable of grappling with it is pitifully limited. The chemical action which takes place between the ptomaines produced by the bacteria and the leucomaines engendered by the cellular changes in the animal organisms is entirely unknown to us. Even the character and identity of these complex bodies are imperfectly understood, however glibly their names may roll from our tongues or flow from our pens. This is the direction in which we are to look and this is the field in which proper medical ambition should find its work. The end in view is of course the knowledge necessary for the prevention and cure of disease and suffering in the animal world.

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FRACTURES THROUGH THE ANATOMICAL NECK OF THE HUMERUS.[*]

By CHARLES A. POWERS, M. D.,
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DURING the ten years ending with May 1, 1888, eighty-two recorded cases of fracture through the upper portion of the humerus were treated in the Out-patient Department of the New York Hospital's House of Relief. A study of these cases reveals conditions which are so much at variance with the teachings of our surgical text-books that I feel justified in introducing the subject of fracture through the anatomical neck for consideration by this society, feeling assured that its discussion will correct those points wherein my own deductions are at fault, and supply all omissions of which I may be guilty.

There is, perhaps, no treatise on fractures as widely and as constantly read by the practitioners of our country as that written by the late Dr. Frank H. Hamilton; and the general opinions held by him regarding the topic under consideration are shared, I think, by a majority of the authors of the surgical text-books to which we daily refer.

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[*] Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

Briefly, these opinions are as follows:

1. Of fractures through the humerus above the lower part of its surgical neck, those through the anatomical neck form but a very small proportion.

2. Their detection is a matter of very considerable difficulty.

3. Bony union is not the general result.

Regarding the possibility of this fracture there can be no doubt. The anatomical specimens seen and described by Spence,* Boyer,† R. W. Smith,‡ Hutchinson,# Hodge,‖ Fleming,△ Cloquet,◊ Sir A. Cooper, Bichat, and others, are sufficiently authentic to require no additional proof. Nor do we lack an abundant number of cases in which the lesion was recognized, or was thought to have been detected, without autopsy. I feel that it would be unprofitable to occupy time in the narration of these, but will content myself with saying that they are, for the most part, scattered cases, which have been placed on record by the authors because of the reputed rarity of the lesion, or on account of the good result which was obtained in the individual case despite the generally unfavorable prognosis.

As an example of these cases, permit me to cite the following, which is narrated by Dr. C. S. Briggs,‡ of Nashville, Tenn.:

> His patient was a man of seventy-five years, who slipped and fell, severely injuring the left shoulder. Careful examination revealed evidences of fracture through the anatomical neck of the humerus, and a molded plaster-of-Paris dressing was applied. There was perfect union at the end of the sixth week, and the functional result was good. Dr. Briggs says: "We report the case on account of its great rarity, and on account of the unusual success of treatment. Most authors unite in declaring an intracapsular fracture of the humerus incapable of union, because of the want of vitality in the upper fragment."

Desault thought that examples of this nature were too few in number to enable one to lay down any general principles of treatment.

Hamilton, with his extensive experience, had seen but one case which he thought to traverse the diameter of the bone above its surgical neck, though of the more common variety no less than forty-one examples had been under his care. Of the older writers, Boyer says that he had seen several cases in which the shoulder joint had undergone suppuration, and he concluded that death was prone to result. Malgaigne, quoting Boyer, and adding cases of his own, concurred in rendering an unfavorable prognosis.

Later writers, however, Stimson and Gurlt among the number, speak with more confidence, and believe that under suitable treatment union may be expected, with reasonable functional activity.

Bringing to the subject, then, these brief preliminaries, permit me to place before you the following cases and results.

Between 1878 and 1888, as previously stated, there were eighty-two cases, with histories, in which the humerus was fractured above the lower part of its surgical neck treated in the Out-patient Department of the House of Relief. Eight of these are discarded as being too scanty in detail to be considered positive in diagnosis. Of the remaining seventy-four cases, forty-six are noted as being through some part of the surgical neck, and twenty-eight as being above this portion of the bone; two of these last twenty-eight cases were comminuted fractures of the humeral head and three were through the tuberosities, leaving twenty-three cases of fracture through the anatomical neck, or thirty-three per cent. of the total seventy-four.

This is a proportion which differs widely from previous statistics, and the question may well be raised as to whether the diagnoses were not in many instances incorrect. To this I can only reply that the cases were in all instances examined and re-examined by men who were daily in the habit of noting shoulder injuries—presumably men who were capable of judging of the cases intelligently. Each patient was examined by two or more surgeons, who, failing to agree, conferred until they did agree. In very many cases the diagnosis was made with the aid of an anæsthetic, and in a very large number of them confirmation was made by the chief surgeon to the hospital, Dr. W. T. Bull, who subjected the cases which came under his notice to a most rigid scrutiny.

Twenty-two of these cases were under my own care, and of these I can conscientiously say that no doubt remained in my own mind or in the minds of the surgeons who examined them with me regarding the accuracy of the diagnoses.

Let it be understood, further, that each case was approached in a spirit of skepticism regarding the probability of fracture through the anatomical neck.

As an exploratory incision was made in but one case, I can not, of course, affirm positively the accuracy of the diagnosis. I can only say that all evidences pointed rationally in the direction of correctness.

Of these twenty-three cases of fracture through the anatomical neck (to which I add three which occurred in my own practice elsewhere—twenty-six in all), fifteen were in males and eleven in females. The age of the youngest was thirty-one years, that of the oldest seventy-two years. Eighteen were in people over fifty years of age.* In twelve the right shoulder was affected, in nine the left, while in five the point is omitted in the history. In twenty-two of the cases the injury was ascribed to a fall on the shoulder; in the remaining four the history of the traumatism is indefinite.

The following history may serve as a fair example of these cases:

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* Edinburgh Med. Jour., 1860, p. 1140.

† Traité des mal. chirur., vol. iii, p. 199.

‡ Fractures in the Vicinity of Joints, p. 192.

Med. Times and Gazette, vol. i, p. 247.

‖ Proc. of the Phila. Path. Soc., 1860, p. 267.

△ Dublin Quart. Jour. of Med. Sci., vol. xliv, p. 234.

◊ Bulletins de la Faculté, 1820, p. 25.

‡ Nashville Med. and Surg. Jour., 1879, p. 163.

* In the matter of age and form of traumatism these statistics agree with those of other observers.

J. J., fifty-six years of age, a man of moderate build, applied for treatment at the House of Relief, December 29, 1887, with a history of having been violently compressed between a truck and a horse-car an hour and a half previously, the left shoulder receiving a severe blow at the time. On examination, the shoulder was found to be considerably swollen, painful, and the seat of almost complete disability. Movements of the arm produced very much pain and elicited a diffuse crepitation at the upper end of the humerus. Ether was administered. With the fingers of both hands pressed well up into the axilla and the thumbs encircling the joint just above the tuberosities, the head of the humerus could be firmly grasped. When, now, an assistant grasped the wrist and elbow and rotated the humerus, the head was felt to remain stationary, and a diffuse, moderately coarse crepitus was both felt and heard. The greater tuberosity was felt to rotate with the shaft. There was no deformity other than that occasioned by the swelling.

A diagnosis was made of fracture through the humerus at some point above its surgical neck. The exact seat was not made out—in fact, I do not think that we can precisely locate the lesion in these cases. We can not say whether or not the fracture is entirely intracapsular.

From a study of the reported anatomical specimens it would seem probable that in most cases it is partly intra- and partly extracapsular. We can, however, by firm, intelligent palpation, determine whether the head rotates and whether the tuberosities rotate with the shaft. If the greater tuberosity does not rotate with the shaft, the lesion is below it. If this tuberosity rotates while the head does not, we may feel sure that the lesion is between them, and this class of cases we may conveniently term "fractures through the anatomical neck."

I think that this is as near an approach to accuracy as we can attain, and I believe it to be sufficiently precise for clinical purposes.

The man's upper extremity was put up in a plaster-of-Paris splint which reached from the wrist to the shoulder, with spica about the latter part. The splint was removed on the thirteenth day, the condition of the parts noted as good, and the splint reapplied from the elbow upward. This second splint was removed on the thirty-third day. There was union with no appreciable deformity. The head of the humerus rotated with the shaft. Flexion and extension of the arm could be made through about one third of their normal arc and he could abduct to 45°. He was given general directions regarding active motion, massage, etc. The functions gradually improved, and on the sixtieth day they were nearly complete. At the end of the third month they were practically perfect.

I saw this man in January of the present year—two years after his accident. He states that his shoulder is as free and as strong as it was before it was broken. The functions are perfect, and the joint is like its fellow except that the upper end of the humerus is the seat of moderate thickening; this thickening is not, however, sufficient in extent to interfere with motion.

I can present ultimate results in cases of fracture through the anatomical neck in the cases alone which were under my own care,* and in but six of these out of the ten, for the remaining four cases passed from notice during the first week of treatment.

In each of these six cases there was firm union without deformity, and in each the functions were completely restored. The joint in each of these instances became as strong as it was before the accident. Five of these patients I have seen within the past month. The other patient died in December, 1889, but the result in her case was known by me to have been a perfect one.

Why should there not be union in these cases?

The fractured surfaces are very broad in extent, and the lesion is through cancellous tissue. Doubtless in almost every instance the upper fragment is attached to the rest of the bone by more or less of capsule and of periosteum.

The conditions differ materially from those which obtain in an intracapsular fracture of the femur. There the head of the bone is large while the neck is comparatively small. At the shoulder the detached portion is small and the neck (if the constriction just below the head be considered a neck) is broad.

I have not spoken of impaction, for I have recognized it in but one case. If it was present in others, it was very easily broken up by the manipulation incident to diagnostic examination.

Gurlt, Malgaigne, and other writers lay stress on the "wedging in" of the head of the humerus between the tuberosities. On this point I can make no comment, for I have not recognized the condition.

Measurements were made in nearly all of my cases, but they showed little or no shortening. That there is a normal difference in the length of the arms is shown by investigations made by Dr. J. G. Smith and myself, and which were set forth in a paper* read before the Hospital Graduates' Club in 1887. We measured the arms of 449 men who gave no history of fracture. In 243 the right was longer than the left, in 109 the left exceeded the right in length, while in 98 there was no difference.

In the treatment of these cases the plaster-of-Paris splint seems to answer every indication.

It may be accurately molded to the parts and it keeps the fragments absolutely at rest. It is a most pliable and faithful agent. It may be applied with moderate and equable pressure as soon as the case is seen. Union is usually assured at the end of four and a half to six weeks.

Despite the fact that it may be urged that the foregoing cases may have been inaccurate in diagnosis and that but a small number have been followed to a final result, I feel that I may be permitted to submit, at least for discussion, the following conclusions:

1. Of the fractures which the humerus undergoes in its upper third, those which traverse its diameter above the surgical neck form a fairly large proportion, this proportion being much greater than is generally stated.

2. In a given case of shoulder-joint traumatism the physician should, at the earliest possible moment, systematically examine the seat of the injury, an anæsthetic being, in very many instances, an indispensable accessory to accurate diagnosis.

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* Efforts were made to find cases which were treated in the institution some years ago, but these were futile. The people were of the "tenement-house class," sailors, and the like—people who are constantly changing their homes.

* Medical Analectic, December 27, 1888.

3. Diagnosis of fracture through the anatomical neck may be based on rotation of the greater tuberosity, accompanied by non-rotation of the head of the humerus and the presence of a diffuse, bony crepitus.

Coexisting evidences—such as pain, disability, swelling, deformity, ecchymosis, and local tenderness—are confirmatory but not diagnostic.

4. As deformity is generally absent, simple but complete confinement, preferably by the plaster-of-Paris splint, is the best form of treatment.

5. The prognosis is, in general, good. Bony union may be expected, together with ultimately complete, or nearly complete, restoration of the joint functions.

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THE BIRTH OF A VERY SMALL LIVING CHILD.

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On January 18, 1890, I was called to see Mrs. B., aged about thirty-five, the mother of seven children. I found her in pains. She thought she was about seven months advanced in pregnancy. The day previous her waters had broken and had been discharging ever since. I found the mouth of the uterus closed, and gave an opiate and left her. On February 2d I was called at 2 a. m. and found her in labor. The os was dilated to the size of a silver half-dollar. The pains were frequent and very severe. The uterine walls were unusually thick. The head presented at the os and was apparently of the size of that of a six-months fœtus, but the pains accomplished but little until 4.30 a. m., when I ruptured the membranes, and the child was born at 6.15 a. m. alive. The child was too small to dress, so I wrapped it in soft flannels and surrounded it with bottles of hot water. The child grew stronger and cried quite loudly. It measured ten inches in length, its head three inches in length and eight inches in circumference around its ears. Its thighs were two inches and a half in circumference. Its fingers were but a trifle larger than a knitting needle. It weighed a pound and two ounces and was well formed. Its finger nails were perfect. It lived eight hours, dying at 2 p. m. the same day. It was emaciated, with a shriveled skin. The mother was a strong, healthy woman, with no history of any constitutional disease. The father is intemperate. It was the smallest living child I ever saw.

The Effect of Alcohol on the Function of the Stomach in Healthy People.—"Dr. Blumenau, in a preliminary communication to the Russian medical journal Vrach, publishes certain conclusions he draws from his experiments on the effect of alcohol on the function of the stomach in healthy people. The author says that in the beginning of the digestive process the functional activity of the gastric juice, the general acidity, as well as the amount of hydrochloric acid and the corresponding digestive power of the juice, are diminished; and in people who are not used to alcohol this decrease is even more distinct. The stronger the solution of alcohol, the greater is its effect. During the first three hours or a little less after its consumption the digestion is slower, but after that it becomes much quicker, to compensate, as it were, for the previous loss of time. The quantity of acid in general, and of that of hydrochloric acid in particular, rises from one and a half to two per cent. above the normal, and the gastric juice has consequently a greater digestive power in the later hours. The secretion of the gastric juice also lasts longer and is more ample when alcohol is consumed. The activity of the pepsin remains about the same, although the coagulation of milk seems to be somewhat slower at the beginning. The motor power of the stomach and its capacity for absorption are diminished in direct proportion to the strength of the alcoholic solution."—*Lancet.*

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THE PAYMENT OF NURSES IN TRAINING SCHOOLS.

The necessity of educating nurses properly is now so generally understood that it is difficult to realize how hard was the fight to establish the training-school system. The founders of the school attached to Bellevue Hospital had to overcome opposition from the profession and from the laity. They were laughed at as unpractical and sneered at as fools or sentimentalists. Few know how much honor is due them for their brave struggle against widespread prejudice and ignorance. It is because of the high standard of the managers of this school that we make use of its Seventeenth Annual Report as a basis for discussing what we regard as an error in the methods of this school and many others. It is, moreover, an error that may possibly ruin the schools, and certainly must impair their efficiency by helping to continue an old fallacy and by producing in the minds of the students a false idea of their real relations to their profession, to their schools, and to the community at large.

This school paid $7,143.90 to its pupils in 1889. Many other schools also pay women to learn a profession which will enable them to earn a living. Why should this be done? The answer to this question given in the Report is hardly satisfactory. The statement that "the city pays our nurses for very arduous services to its patients" does not exactly seem to give a correct idea of the facts. The city pays the corporation of the school for furnishing nurses to its hospital. This corporation pays the nurses. The city has nothing to do with the final disposition of the money. We make this criticism only to show that there is no moral or legal obligation compelling the school to pay the nurses, as the quotation seems to imply. The school simply contracts, for a certain sum of money, to furnish competent nurses to the hospital; it does not, so far as we know, make any agreement with the city as to the way in which this money shall be spent. Moreover, it is shown in the Treasurer's Report to use the money not to pay nurses alone, but also part of the expenses of the school, since it received $15,966.27 for the "services of nurses in Bellevue Hospital," and paid $7,143.90 to these nurses. We also find that "this sum . . . is in no wise intended as wages, it being considered that the education given is a full equivalent for their (the nurses') services." Surely the education is "an equivalent." In what other profession or trade is it customary to give an education for nothing? Of course there is a difference between this and most professions in that the students during their instruction necessarily do good to others than themselves. They therefore do in a measure pay for their instruction by their work. This payment in labor for instruction may possibly be sufficient.

The Report further says, in substance, that the work is hard, and then: "Many of our best nurses were self-supporting before they entered the school. . . ." We fail to see that these facts have any bearing on the question. In another place the Report says: "It has always been a perplexing problem how the expenses of the school, which amount yearly to nearly $22,000, shall be met. . . ." Here we see one evil resulting from paying the students. The school, with all its usefulness—which opens to women the door of a remunerative profession and alleviates an untold amount of suffering yearly—is short of money.

The bad effect upon the school financially is not, however, the most serious evil. Far worse is the lowering of the moral tone that always results from paying money to any one without demanding an equivalent. The money, we are told (which is "not paid for wages," *i. e.*, in return for work done), is "allowed for the dress, text-books, and other expenses of the nurse, in connection with her work!" Do these things cost $228 for each nurse during her period of instruction? If the nurses are actually without money and are worth teaching, the school had better furnish the dresses, etc., and not money to pay for them. Money is as surely degrading when paid to a nurse as to anybody, unless it is really earned.

Nursing as a profession must not be regarded in a false or sentimental way. It is a high and useful calling. It demands peculiar gifts, for real nurses can not be made by education, though thorough education is necessary to every one who has these gifts. The benefits to the sick conferred by the training schools are incalculable. The community benefits greatly by the work of the nurses, and the better the nurses the greater the benefit. All this is true, but it is equally true in the case of physicians, architects, lawyers, plumbers, and almost anybody from whose work the community benefits. We doubt, however, if the proposition to pay persons to learn the plumbing trade, for example, would meet with much favor. We do not hear of any desire to pay medical students for studying their profession, which requires much the same qualities as that of nursing.

The only excuse for paying the students of training schools would be the impossibility, without doing so, of finding persons fit for the profession. This means simply either that the demand greatly exceeds the supply, or that none but the very poor have the needed ability. Both these propositions are absurd; 1,306 applications were received last year at the Bellevue school, where there were only 31 vacancies. The supply is sufficient. It would not be hard to fill the school with good students if no pay was offered.

There is a widespread tendency to regard training schools as charitable institutions. In point of fact, they are to be classed with any private enterprise that has good special education for its object. The "charity" of all these is not in the least degrading, since it is the improvement of the community which is their real aim, and not alone that of their own scholars. The original reason for founding such schools was a love for mankind and a desire to help the suffering. A scholar can receive her instruction free, or pay no matter how little for the privilege, with no loss of self-respect. In the early days of training schools it may have been necessary to pay in order to secure students. If that was the case, the great benefit to be derived from establishing the system justified the policy. Now, when there is no reason to suppose that good nurses would not apply unless they were paid, there is no excuse for continuing it.

The school practically says to the would-be nurse: "Your profession is one demanding hard study, unselfish devotion, tact, intelligence, etc. It has a noble aim. Therefore for the privilege of teaching you we give you instruction, board, and lodging in return for your work, and add to these a sum of money which, if not regarded as wages about equal to the pay of the lowest-class domestic, is a gratuity and therefore an insult." Because the profession is one useful to humanity and unselfish in its aim, there is the more reason not to view it from any but the highest standpoint.

THE INFLUENCE OF COFFEE ON THE GROWTH OF MICRO-ORGANISMS.

An interesting article has recently been published in the Zeitschrift für Hygiene, by Dr. Carl Lüderitz, concerning the influence of infusions of coffee on micro-organisms. Inasmuch as coffee is so commonly used as a beverage among all classes of people, it is important for many reasons to determine its influence upon micro-organisms in general and especially upon pathogenic forms. Investigations here reported seem to show in the most unmistakable manner that infusions of roasted coffee have very distinct antiseptic properties, and the importance of this from a practical standpoint becomes apparent at once. If infusions of coffee have a marked deleterious action upon pathogenic organisms, and especially upon some forms which are the cause of epidemic types of disease, it may be a valuable agent for the restriction of these, and may be used for quenching thirst when there is any suspicion as to the contamination of water. Especially is this true in those epidemics of typhoid fever and cholera, which are certainly transmitted almost entirely through the medium of the food and drink.

Some observations had previously been made upon the influence of coffee infusions on the life and growth of micro-organisms. As far back as 1832 Weiss reported that the addition of coffee hindered considerably the decomposition of animal and vegetable matter and diminished the odor from them, and other observations have been made since that time by Close, Oppler, Rabuteau, and, finally, Sucksdorff. All these experimenters have found that infusions of coffee have an influence in checking or preventing fermentation and decomposition in animal and vegetable matter, or shown that they interfere decidedly with the growth and development of various forms of micro-organisms.

Lüderitz details a careful series of experiments in which he determined the influence of coffee infusions of different strength (varying from ten to thirty per cent.) upon the growth of various forms of pathogenic and non-pathogenic micro-organisms. The coffee used in these experiments was roasted Java, and the infusions were made by adding from ten to thirty parts of coffee by weight to seventy or ninety parts of boiling hot water. The coffee, freshly roasted and ground fine, was covered with boiling water, and the infusion thus prepared was placed in a closed flask in a water-bath for about ten minutes and was then filtered through a sterilized filter. This infusion was used in part for making gelatin and in part directly. Where nutrient gelatin was made with this as a menstruum, it was inoculated with various forms of fungi and other micro-organisms to determine the possibility of their growth in such a medium. In other cases the organisms were added directly to the infusion of varying strength, and after different periods of time inoculations were made from the infusions into other nutrient media. Lüderitz found that the forms of fungi experimented with showed more or less growth in the coffee gelatin, but the abundance of growth was in many cases distinctly less than in other media. The other micro-organisms he used for his experiments were the *Staphylococcus pyogenes aureus*, the *Streptococcus erysipelatosus*, the typhoid bacillus, the spirillum of cholera asiatica, the *Bacillus anthracis*, the *Bacillus prodigiosus*, and the *Proteus vulgaris*. All these forms of micro-organisms were greatly influenced in their life and growth by exposure to the infusions of coffee, but some were far more susceptible than others. The *Bacillus prodigiosus* was totally destroyed only after exposure in a ten-per-cent. infusion for four days or in a thirty-per-cent. infusion for one day. The typhoid bacillus was completely destroyed after exposure in a five-per-cent. infusion for three days, in a ten-per-cent. infusion for from one to three days, or in a thirty-per-cent. infusion for one or two days. The *Proteus vulgaris* was killed after an exposure for four days in a ten-per-cent. infusion. The *Staphylococcus pyogenes aureus* was destroyed only after an exposure for six days in a ten-per-cent. infusion and for three days in a thirty-per-cent. infusion. The *Streptococcus erysipelatosus* was destroyed after an exposure of one day in a ten-per-cent. infusion. The bacillus of Asiatic cholera was destroyed in a one-per-cent. infusion after seven hours' exposure, in a five-per-cent. infusion after four hours, and in a thirty-per-cent. infusion after two hours. The *Bacillus anthracis* was destroyed in a ten-per-cent. infusion after three hours, and in a thirty-per-cent. infusion after two hours. The spores of the anthrax bacillus were only destroyed, for the most part, after three weeks' exposure in twenty- and thirty-per-cent. infusions.

Aside from these experiments, others were made with decomposing meat bouillon, which was swarming with various forms of micro-organisms. The results obtained from these showed that, while the viability of the spores contained in the fluid was greatly diminished after a short exposure, it was not completely destroyed until after an exposure of many days. The cholera spirillum was by far the most susceptible of the organisms used in the experiments, and next to it stood the anthrax bacillus without spores.

The question as to which of the chemical constituents of coffee infusion it is that exerts the germicidal action must be left at present unanswered. As has been shown, it is not the caffeine, for nutrient gelatin containing a percentage of caffeine representing ten, twenty, or thirty per cent. of coffee infusion exerts but very slight influence upon the growth of micro-organisms. It seems probable, however, that the antiseptic action is due to empyreumatic substances formed during the roasting of the coffee; at least this is the conclusion of all the experimenters on the subject.

MINOR PARAGRAPHS.

THE ILLINOIS STATE BOARD OF CHARITIES.

In Illinois the cause of the pauper insane has attracted the attention of the humane and charitable throughout the State. A discussion of the bad policy of continuing the old almshouse system of caring for lunatics, and of the desirability of creating new State hospitals for the insane is in progress. The recent report of the State Board of Charities is, in point of fact, an indictment of almost every almshouse in the country where the insane are huddled together, not so much from the possible cruelties that may be practiced, but from the neglect of medical supervision and the condemnation, in advance, of all such inmates as being incurable and beyond the reach of medical alleviation. The remedial influences of employment, recreation, and companionship are very generally denied to those patients who are a source of trouble to their keepers. The easiest way to be rid of a disagreeable lunatic is to confine him by himself in a separate room and then visit him often enough to thrust some food to him through a hole in the door. Sometimes there is warmth in winter, and sometimes a light near by at night, but often not. Sometimes there is a bed, at other times there is a handful of straw on the floor. Of worse features it is not necessary to speak, although there are enough of them, beyond saying that their essence and true cause are in the lack of medical supervision and that their remedy is in the recognition of insanity as a mental disease and in the provision of hospitals for that class of diseases.

SAUERKRAUT IN THE TREATMENT OF GASTRIC NEUROSES.

Nouveaux remèdes, quoting from Franz Heller (Wien. med. Presse), who has made experiments on himself and others, states that this author suggests sauerkraut at meals as the best remedy for chronic nervous or anæmic dyspepsia. Dyspeptic symptoms—such as regurgitation, difficult digestion, and eructations—disappear in a short time. An effort was made to replace sauerkraut by dilute hydrochloric acid—four drops in water—but without favorable results. Red cabbage was also without avail.

AN AMBULANCE CORPS EXHIBITION.

An interesting exhibition was given on Monday evening, April 21st, by the Ambulance Corps of the Twelfth Regiment of the National Guard of the State of New York. Among other matters, the exhibition showed praiseworthy proficiency in the improvising of splints for cases of gunshot fracture.

THE PERSECUTION OF A BROOKLYN PHYSICIAN.

Some weeks ago we recorded with satisfaction the fact that the trial of Dr. Mary A. Dixon Jones and her son, Dr. Charles

N. Dixon Jones, of Brooklyn, jointly indicted for certain alleged acts of a criminal nature in their professional career, had resulted in their favor. There was another indictment hanging over the lady, and we are now glad to learn that this has been dismissed by the District Attorney. We were never able to see that the Grand Jury's action in finding the indictments was founded on anything more substantial than slanderous reports and an exaggeration of clamor based on newspaper allegations; in short, there has all along seemed to be a spirit of persecution at the bottom of the matter, and its termination, so far as the criminal charges go, seems to us to be one that ought to have been foreseen. Although it was the best one that could occur, it is much short of being satisfactory to two members of the profession who have for months suffered from unfounded aspersions.

DR. MAXWELL'S GIN COCKTAIL.

In our last issue we printed a letter from Dr. George Troup Maxwell, of Jacksonville, Fla., in which there was a formula for a gin cocktail employed by him in the treatment of yellow fever. When it was too late to make any change in the type we received a correction of the formula from Dr. Maxwell. It seems that the proportion should be: eight ounces of gin to two ounces of compound tincture of cinchona. Dr. Maxwell adds that he sometimes gives, alternately with the cocktail, Basham's mixture, substituting gin for curaçoa in the latter.

THE JUST ENDING OF A MALPRACTICE SUIT.

We congratulate Dr. W. S. Gleason, of Newburgh, N. Y., on the prompt justice done him by the jury in a case in which he was recently sued for damages. The case was one of dislocation at the shoulder complicated with fracture of the humerus at a short distance below the joint. The patient was drunk at the time, and his muscles were so relaxed that, with the assistance of a colleague, Dr. Gleason was able to reduce the dislocated fragment. Before his drunkenness passed off ,the man disarranged the appliances that had been employed, and reproduced the dislocation, and then it was found impossible to reduce it again. Nevertheless, the fracture was treated successfully. The patient's ostensible ground of complaint was that the dislocation was his only original injury, and that Dr. Gleason had produced the fracture in his efforts to effect reduction —an occurrence that could hardly happen in the hands of a surgeon of any respectable attainments. In court, Dr. Gleason and his colleague, Dr. Wooley, told a straightforward story, and their management of the case was highly commended by the skilled witnesses called at the trial, Dr. Charles McBurney, of New York, and Dr. Jarvis S. Wight, of Brooklyn. Worthless persons are prone enough to bring baseless suits against members of our profession if left to their own devices, but it is to be feared that in this case the notion of prosecuting was stimulated by the unwarrantable course taken by two practitioners who, without being in any way employed by the injured man, examined him out of mere "curiosity."

THE UNCERTAINTY OF MALPRACTICE SUITS.

How a trifle may turn a jury's view of testimony in a malpractice suit—or, for that matter, in almost any case under trial —is shown in this incident: A surgeon having been sued for malpractice, it was in evidence that he had had on evening dress at the time of doing a minor operation on the plaintiff, and the doctor's counsel was apprehensive that the jury would infer from this fact that he was in haste to get away to the opera or some other entertainment, and therefore negligent of his patient. It happened, however, that a little Irishman on the jury, having found that this inference had actually been drawn by his fellow jurymen, assured them that they were all wrong, saying that he knew something about surgeons' customs, as he had a relative in the profession, and that one of them was to put on full dress whenever an operation was to be performed. This statement turned the tide, and the verdict was in the doctor's favor.

A PROPOSED NATIONAL LABORATORY.

A bill is now before Congress for the establishment of a national "pathobiological" laboratory (or, rather, two laboratories—a "humano-pathobiological" and a "zoo-pathobiological" —each with an independent director) under the management of a board of trustees consisting of the Secretary of the Treasury, the Secretary of Agriculture, and the Surgeon-General of the Marine-Hospital Service. The idea of a national laboratory devoted to the purposes set forth in the bill is a good one, but let us have only one, and let that one not be called by either of the fantastic names above mentioned or by any name resembling them.

THE METRIC SYSTEM AND THE PHARMACOPŒIA.

A committee of the American Association for the Advancement of Science has issued an address to the professions of medicine and pharmacy and to the medical and pharmaceutical colleges of the United States and Canada, urging the adoption of the metric system of weights and measures in the forthcoming edition of the United States Pharmacopœia. It may be expedient for the Pharmacopœial Committee to comply with this suggestion, but we warn them that, if they wish to escape general complaint, they must couple every metric expression with its equivalent according to the system now in use; no mere table of equivalents will be satisfactory.

AN AMERICAN HUNJADI-JÁNOS SPRING.

It is stated that Colorado, the land of many springs, contains one that is a close analogue of the European Hunjadi. It is located not far from Denver, it is easily accessible, and, if the investigations of its owners that are now in progress confirm the partial analyses already made, it must become a spring of national reputation. The preliminary examinations have shown over 900 grains of salts to the gallon, of which there are 400 grains of sulphate of magnesium, 180 grains of sulphate of sodium, and 67 grains of sulphate of potassium. The water contains, also, iron and manganese in small quantities. It has comparatively little chloride of sodium, from ten to fifteen grains only to the gallon, which fact gives this spring an advantage over some Saratoga waters and others, in which the quantities of common salt are excessive for a certain range of uses. The therapeutical applications of this new Colorado medicinal spring are under examination, but enough is already known of its effects to make it probable that it will rank among the best of our American laxative waters.

THE BULLETIN OF THE NORTH CAROLINA BOARD OF HEALTH.

The monthly issue of this Bulletin for March contains reports concerning the prevailing diseases in fifty-six counties, from which it appears that influenza had been epidemic in forty-six of them, with pneumonia in fifteen. Several reporters notice the fact that there was at the same time an epidemic of distemper among domestic animals.

THE FRENCH HOSPITAL.

During the last ten days of the month of April a fair has been in progress for the benefit of the *Hôpital de la Société française de bienfaisance* and of the *Salle d'asile gratuite.* These are most deserving institutions, and we hope that the fair will be found to have brought in a handsome addition to the society's funds.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 29, 1890:

DISEASES.	Week ending Apr. 22.		Week ending Apr. 29	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	2	10	0
Scarlet fever	95	5	75	7
Cerebro-spinal meningitis	3	2	2	1
Measles	330	35	273	30
Diphtheria	110	34	117	32
Varicella	17	0	10	0

Niagara University.—The fifth annual meeting of the Alumni Association of the Medical Department was held on the 15th of April. Addresses were given by Dr. Herbert Mickle and Dr. G. W. T. Lewis (the president), of Buffalo, and Dr. L. S. McMurtry, of Louisville; and formal papers were read by Dr. W. S. Tremaine, of Buffalo, Dr. Joseph Hoffman, of Philadelphia, and Dr. B. G. Wilder, of Ithaca, N. Y.

The Sanitarium for Consumptives at Goerbersdorf, Silesia, formerly conducted by the late Dr. Bretnuer, has been intrusted to Dr. Felix Wolff, formerly Professor Curschmann's chief assistant at the Hamburg General Hospital.

Changes of Address.—Dr. Willy Meyer, to No. 700 Madison Avenue; Dr. Hermann G. Klotz, to No. 42 East Twenty-second Street; Dr. Daniel Lewis, to No. 249 Madison Avenue; Dr. Edward A. Ayers, to No. 151 East Thirty-fourth Street.

The Harlem Hospital.—Dr. Edward Fridenberg has been appointed visiting ophthalmic surgeon.

The late Dr. Samuel Rotton Percy, who died on the 24th of April, at the age of seventy-four years, was a professor in the old New York Medical College at a time when its faculty included some of the most efficient teachers in New York. Much of his attention was devoted to physiological chemistry, and especially of late years to the investigation of organic compounds of phosphorus from the point of view of their assimilability and their value as restorers of impaired nervous power.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending April 19, 1890:*

Fessenden, C. S. D., Surgeon. To proceed to Marion, Ky., on special duty. April 16, 1890.

Bailhache, P. H., Surgeon. Detailed as chairman of Board for Physical Examination of Officers of Revenue Marine Service. April 12, 1890. To proceed to Portland, Oregon, Tacoma, Seattle, and Port Townsend, Wash., as inspector. April 16, 1890.

Hutton, W. H. H., Surgeon. Detailed as chairman of Board for Physical Examination of Officers of Revenue Marine Service. April 10, 1890.

Long, W. H., Surgeon. To proceed to Marion, Ky., on special duty, relieving Surgeon Fessenden. April 18, 1890.

Kalloch, P. C., Passed Assistant Surgeon. Detailed as recorder of Board for Physical Examination of Officers of Revenue Marine Service. April 12, 1890.

Magruder, G. M., Assistant Surgeon. Detailed as recorder of Board for Physical Examination of Officers of Revenue Marine Service. April 10, 1890.

Guitéras, G. M., Assistant Surgeon. To report to the Superintendent of Immigration, New York, for special duty. April 12, 1890.

Society Meetings for the Coming Week:

Monday, *May 5th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; Boston Medical Association (annual); St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *May 6th:* Illinois State Medical Society (first day—Chicago); New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Hudson, N. J. (annual—Jersey City), and Mercer, N. J. (annual), County Medical Societies; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *May 7th:* Illinois State Medical Society (second day); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Essex North (annual—Haverhill), and Plymouth (annual), Mass., District Medical Societies; Bridgeport, Conn., Medical Association.

Thursday, *May 8th:* Illinois State Medical Society (third day); New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *May 9th:* Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

Saturday, *May 10th:* Obstetrical Society of Boston (private).

OBITUARY NOTE.

Frederick A. Kinch, M. D., of Westfield, N. J., died quietly at his home on Sunday, April 27th, of chronic interstitial pancreatitis and duodenitis. For eighteen months he had been in feeble health, and in January he had had pneumonia. Dr. Kinch was a native of New York, and had been in practice in Westfield since 1849. He was identified with many public interests of the town, having been trustee, treasurer, and elder of the Presbyterian Church, township superintendent of public schools, and one of the incorporators of Fairview Cemetery. For the year 1873 to '74 he was president of the District Medical Society of the County of Union. In the usual address on retiring from the chair he gave an account of some unusual cases of variola which had occurred in Westfield the winter before. He had been unjustly censured by individual physicians for his management of these cases, but the reading of this paper and the consequent discussion resulted in his complete vindication.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of April 1, 1890.

The President, Dr. G. W. Jacoby, in the Chair.

Feigned Insanity.—Dr. M. D. Field presented a report of a case. J. D., indicted on the charge of grand larceny in the first degree, and having the prospect of five to ten years imprisonment before him if convicted, had been in the Tombs for four weeks when examined by the author. Since his admission he had not spoken or made any voluntary movement; would follow where he was led. If put in a chair, would remain there; would not partake of food or water unless they were put into his mouth, when he would swallow mechanically. Sometimes he would wet his clothing or the bed. He had a fixed, staring expression, only occasionally winking. He was not cataleptic, although two physicians had so certified to the district attorney. Nothing would startle him out of his condition, neither pricking, nor dashes of cold water, nor pressure upon the supraorbital nerve. He lost thirty to forty pounds in weight. Subsequently he was sent to Jefferson Market prison, from which he escaped by sawing out a bar in conjunction with another prisoner. His associate was recaptured and described how he had aided the malingerer in his deception. The feigning of the condition portrayed had been carried on for over three months.

Dr. Fitch said that malingerers could not feign mania and melancholia so successfully as they could the condition of stupor. It was difficult for examiners to determine the exact nature of the case when the latter state was simulated, for obvious reasons. He related some instances of feigned insanity that had come under his observation.

Dr. Ingram referred to a case described by Esquirol which was similar in many respects to that related by Dr. Field.

Dr. Sachs recalled an interesting case that he had observed in Westphal's clinic nine years before. The motive of the patient was to escape military duty. The man was twenty-two years of age. He suddenly became mute, and continued so for six or seven months. There were no other symptoms. All the military physicians had either agreed that the man was insane or suspected that condition. He was sent to Professor Westphal. At this time he further simulated a contraction of the right leg. It was impossible to surprise him at an unguarded moment, for even at night they would invariably find the contracture present. He would so envelop the limb in the bed-clothes that any attempt at examination would awaken him. Finally an officer was hidden in a room where the patient was to meet a friend, with whom he talked quite freely, and the malingering was thus discovered.

Dr. Fisher thought it would be impossible for any one to say whether a person was insane or not when in a condition such as had been described by Dr. Field, unless the person was under constant observation. Simulators seemed to be oftenest found in the classes of feeble-minded and imbecile or in those with an hereditary neurotic taint.

Dr. Leszynsky related an interesting case of deception practiced by a woman with chronic mania. She inserted a piece of glass into her arm, which one of the physicians in the asylum removed by operation. She then stated that there was another piece in a neighboring spot, and this too was located and removed. This was repeated over and over again, quite a number of times, before it was ascertained that she was herself inserting the pieces of glass into her flesh.

Dr. Dana had seen stuporous forms of insanity at Bellevue Hospital, often associated with catalepsy—they were a species of catatonia. In cases of simulated catalepsy there was an excellent test which he had made use of to discover the simulation. It consisted in placing the supposed cataleptic before another patient in the familiar attitude—with his fingers to his nose. This position appealed to the sense of the ridiculous to such an extent that the simulator will finally break down as a rule, whereas, of course, the true cataleptic remained unaffected.

The Rational Treatment of Sciatica.—Dr. G. M. Hammond read a paper on this subject. The author considered all cases to be pathologically a more or less mild or severe inflammation of the nerve-sheath or interstitial tissue. He agreed with Anstie that rheumatism, gout, and syphilis were not nearly so commonly associated with sciatica as was generally believed. His own experience with the disorder had shown that the vast majority of persons with sciatica had never suffered from these diseases, and that out of hundreds of persons with rheumatism, gout, and syphilis, a very infinitesimal proportion had ever had sciatica. It was very probable that rheumatism and gout lowered the tone of the system to such an extent as to render the patient more liable to an attack of sciatica than he otherwise would be. But, whatever might be the cause of the disorder, it should in all cases be treated as a neuritis. Pathologically, we had to deal with inflammation of the sheath of the nerve and perhaps of the nerve itself, and with a sero-fibrinous exudation, which was usually between the sheath and the nerve, but was sometimes in the substance of the nerve itself. Clinically, there was pain, which might be slight or agonizing, continuous or only present on motion, and, in old cases, there was a certain amount of atrophy of some of the muscles.

For the relief of pain the remedies used should vary with the extent of the suffering. In the severest cases, where the suffering was intense, it was absolutely necessary to use morphine. When such was the case, it should be given in doses amply sufficient to relieve all pain, and should be injected hypodermically and not given by the mouth; the fluid should be injected as near the nerve as possible, as there was some reason to believe that morphine had a tendency to reduce the inflammation in a nerve when brought in contact with it. In milder cases, phenacetin, in a single dose of fifteen grains, which could be repeated in an hour if necessary, would be found to fulfill all requirements. Antipyrine and acetanilide could be used in place of phenacetin if desired.

To relieve the neuritis itself he depended almost entirely upon rest, the application of cold, and the use of electricity. In regard to the value of rest in the treatment of sciatica there could be no doubt. Every time the leg was moved the functions of the sciatic nerve were called into play. It was well known that the use of nerves and muscles induced a temporary congestion of the parts used, which would only have a tendency to aggravate a condition of already existing inflammation. By rest he meant absolute rest attained by keeping the patient in bed and applying the old-fashioned long splint, reaching from the axilla to the sole of the foot. It should be so attached as to leave the thigh and sole uncovered for the use of electricity and cold. Dr. Weir Mitchell had been the first advocate of the use of the splint in sciatica. Every fourth day the splint should be removed for a short time in order to manipulate the joints and muscles to a slight degree. Cold could best be applied to the sciatic region by ice-bags. The refrigerating sprays he had found less efficacious. As to electricity, it was very useful, but only the continuous current should be employed, and in the following manner: The negative electrode should be about nine by four inches in size, and should be strapped to the sole of the foot by elastic bands. The positive electrode should be about five or six inches square, and should be applied over the gluteal region, over the point where the sciatic nerve emerged from the pelvis. If there were any very tender spots along the course of the nerve, this electrode could be changed occasionally so as to cover them. The strength of the current should not be such as to cause much pain, but should fall just short of doing so. No rule as to the current strength to be employed could be laid down, as the point of toleration was different in different individuals. The continuous current should be applied twice daily, if possible—certainly once a day—for about five minutes at each *séance*. Most of the text-books recommended that at the end of each application of the continuous current a number of interruptions should be made in order to stimulate the muscles. Nothing of the sort should be done. It was opposed to the scientific treatment of the disease. It irritated the nerve and counteracted, in part if not altogether, the benefit derived from the continuous current.

Dr. Burnett had treated a case of acute sciatica by this method with the long splint, under the direction of Dr. Hammond. The leg was kept in the splint for eight days, when recovery was found to be perfect.

Dr. Dana thought that the author of the paper had done good service in calling attention to the fact that rheumatism, gout, and syphilis were not causative elements in sciatica, but merely diatheses, at times coincident with the disease of the nerve. Almost all cases were of an inflammatory nature; there was a minority of cases, however, in which there was no actual neuritis, but a pure neuralgia, often reflex and due to pelvic irritation and especially found in young women. He believed the treatment outlined to be rational. Rest was fundamental; but he had had quite as much success with strong counter-irritation in addition to the rest as with the application of cold.

Dr. Starr mentioned the fact that acupuncture had been employed as a remedy in sciatica, a contributor to the Practitioner having recently called attention to the method, maintaining that fluid accumulating in the sheath of the nerve might thus be evacuated. He had himself had no experience with it.

The President differed with the author of the paper and with Dr. Dana in their statement that rheumatism, gout, and syphilis had no particular causative relation to sciatica. There was not perhaps so much relation between sciatica and gout and syphilis as between sciatica and rheumatism, but his experience led him to be convinced of such relation. He had also met with a number of cases of sciatica due to diabetes; and, if diabetes could do so, why could not the rheumatic poison produce a similar sciatic neuritis?

In treatment he had found the galvanic current very unsatisfactory, but the application of cold useful. He had also employed ichthyol with considerable benefit.

Officers for the Ensuing Year were elected as follows:

President, Dr. Landon Carter Gray; vice-presidents, Dr. B. Sachs and Dr. E. D. Fisher; recording secretary, Dr. Frederick Peterson; corresponding secretary, Dr. W. M. Leszynsky; treasurer, Dr. Græme M. Hammond; councilors, Dr. G. W. Jacoby, Dr. C. L. Dana, Dr. M. D. Field, Dr. M. Allen Starr, and Dr. E. C. Seguin.

Book Notices.

Affections chirurgicales des reins, des uretères et des capsules surrénales. Par A. Le Dentu, professeur agrégé à la Faculté de médecine de Paris, etc. Avec 34 figures dans le texte. Paris: G. Masson, 1889. Pp. v–828.

The author premises this work with the statement that he has endeavored to condense and synthetize the mass of literature on the surgery of the kidneys and ureters that has appeared during the past five years, and to prepare a work that will properly balance the importance of the subject treated and the length of the chapters. He has realized this ideal, if we make allowance for geographical differences in the frequency of disease, as he treats of lithiasis at almost three times the length of an article on any other subject in the volume, though a thorough survey of a subject has not been omitted in any of the chapters on the different surgical affections of these organs.

We note that the suggestion is made that the term nephrorrhaphy should be reserved to describe the operation of suture of the kidney, as in wounds of that organ, and nephropexy is suggested as the name for the operation of suturing the kidney to the posterior abdominal wall.

The different operations for nephrotomy and nephrectomy are described, the author preserving a judicious conservatism in recommending their application. Altogether the work is well worthy of reference by any one engaged in a study of the subject of which it treats.

Du rôle de l'hérédité dans l'alcoolisme. Par Paul Sollier, interne des hôpitaux de Paris. Avec une préface de M. le Dr. Bourneville, médecin de l'Hospice de Bicêtre. Paris: Lecrosnier et Babé, 1889. Pp. xiii–214. [Prix, 2 fr. 50.] [Publications du Progrès médical.]

This interesting and valuable treatise secured the first prize offered by the Medico-physiological Society. Statistics have been secured concerning three hundred families, who have had one representative in the epileptic or idiotic ward at the Bicêtre. The history of such patients has been most carefully studied. Alcoholism and its relation to epilepsy, to hysteria, to unsoundness of mind, to suicide, to vice, and to insanity, are considered with care and discrimination. The author finds that four generations of drinkers exclude the possibility of a fifth: the family is then extinct. Sollier's study of heredity as a factor in alcoholism is a work of great merit that brings to the reader's mind a series of valuable facts and important conclusions. It tends to make him more charitable and infinitely more vigilant. Brought home to each citizen, such a little book might be the starting-point for the evolution of a law that would confine the dipsomaniac as closely as the insane, and treat the drunkard by means of drugs and other agents as carefully as the victim of small-pox or diphtheria.

Essentials of Diseases of the Skin, including the Syphilodermata. Arranged in the Form of Questions and Answers, prepared especially for Students of Medicine. By Henry W. Stelwagon, M. D., Ph. D., Attending Physician to the Philadelphia Dispensary for Skin Diseases, etc. With Seventy-four Illustrations. Philadelphia: W. B. Saunders, 1890. Pp. viii–17 to 270. [Saunders's Question Compends, No. 11.]

We are indebted to Philadelphia for another excellent book on dermatology. The little one now before us is well entitled Essentials of Dermatology, and admirably answers the purpose for which it was written—for the use of students. Though opposed on general principles to "manuals," the experience of the reviewer in teaching students has taught him that a book such as this of Stelwagon's is needed.

There is really very little "essential" wanting in this book, and but little to criticise. We might, perhaps, question the utility of the table of the relative frequency of skin diseases (page 26) as an essential for students. We believe that lichen scrofulosus is more frequent than stated on page 91. We note that the most common synonym of eczema, salt rheum, is omitted on page 92; that no mention is made of the use of the curette in the treatment of acne; and that the excessive use of tea is not given among the ætiological factors of rosacea. We are pleased with the handsome appearance of the book, with its clear type and good paper; and would specially commend the woodcuts that in most instances do illustrate the text. A very happy feature of the book is the references to plates in the different standard atlases. The book is deserving of success, and we do not doubt that it will meet with it.

Contributions to the Surgical Treatment of Tumors of the Abdomen. Part II. Electricity in the Treatment of Uterine Tumors. By Thomas Keith, M. D., LL. D. Edin., and Skene Keith, F. R. C. S. Edin. Edinburgh: Oliver & Boyd, 1889. Pp. viii–255. [Price, 6*s.* 6*d.*]

We have in this work a detailed account of the treatment of one hundred and six cases of uterine tumor by the galvanic current. The results have not been perfect, nor are they alleged to be such. But the bad results have been astonishingly few, and it must be a matter of great congratulation to the patients as well as to their physicians that so much relief has been obtained in the majority of instances. We have indeed reached a new era in the treatment of uterine tumors, and the experience of such honest and candid men as the Keiths will go a long way toward discountenancing further cutting operations for the relief of such conditions. Certainly in these cases electricity is worthy of a fair trial, and, if it fails, we can still resort to the knife. There are at least two objections to this method which will appear. One is the prejudice on the part of successful surgeons to anything which will displace customary methods. But this is an objection which ought not to prevail with reasonable men. The other is that an electrical outfit is very expensive, and careful study and training are necessary in order to use it intelligently and successfully. Its use will probably be limited to the few for the same reasons that only the few are able to perform hysterectomy with that measure of skill and success that warrants the undertaking of such serious operations.

Hunterian Lectures on Intracranial Inflammations starting in the Temporal Bone: their Complications and Treatment. Delivered at the Royal College of Surgeons, June, 1889, by Arthur E. J. Baker, F. R. C. S., Hunterian Professor of Surgery and Pathology, etc. London: Illustrated Medical News Company, 1889. Pp. 72.

Starting with the statement that there are four hundred deaths yearly attributed to ear disease in the Registrar-General's Reports, the author pleads for a more careful and wider study of ear diseases by the general practitioner. He describes the septic processes taking place in the middle ear, and the connection of the latter with the brain by small veins passing from the external surface of the temporal lobe, either to the superior petrosal sinus or to the dura mater about the roof of the tympanum, and also from the anterior cerebellar surface to the lateral sinus. Small arteries and lymphatics near the walls of the tympanum may also carry pathogenic substances into intracranial regions. The mortality from middle-ear disease is over two per cent. It may give rise to pyæmia, phlebitis of the lateral sinus, thrombosis, subdural abscesses, meningitis, and cerebral and cerebellar abscesses. The author then points out the methods of diagnosis between these diseases, and describes the surgical procedures which are required for their cure.

Egypt as a Winter Resort. By F. M. Sandwith, F. R. G. S., formerly Vice-Director of the Sanitary Department of Egypt. London: Kegan Paul, Trench, & Co., 1889. Pp. vi–153. [Price, 3*s.* 6*d.*]

This little volume indicates to physicians the particular suitability of the Egyptian climate for cases of phthisis, bronchitis, asthma, and rheumatism. It is furthermore adapted as a general guide-book to meet the wants of invalids journeying thither.

A Text-book of Physiology. By M. Foster, M. A., M. D., LL. D., F. R. S., Professor of Physiology in the University of Cambridge, etc. With Illustrations. Fifth Edition, largely revised. Part II, comprising Book II. The Tissues of Chemical Action, with their Respective Mechanisms. Nutrition. London and New York: Macmillan & Co., 1889. Pp. xxii–355 to 846. [Price, $2.60.]

About all that is necessary for a student to know about physiology is contained in this work. Whoever reads, marks, learns, and inwardly digests its contents has laid the foundation for a sound and liberal medical education. This volume treats of the tissues, of chemical actions with their respective mechanisms, and of nutrition. A scientific book that reaches a fifth edition recommends itself, and is to be noticed, not criticised.

BOOKS AND PAMPHLETS RECEIVED.

A German-English Dictionary of Medical Terms. By Frederick Treves, F. R. C. S. Eng., Surgeon to the London Hospital, and Hugo Lang., B. A. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. viii–403.

A New Medical Dictionary; including all the Words and Phrases used in Medicine, with their Proper Pronunciation and Definitions, based on Recent Medical Literature. By George M. Gould, B. A., M. D., Ophthalmic Surgeon to the Philadelphia Hospital, etc. With Elaborate Tables of the Bacilli, Micrococci, Leucomaines, Ptomaines, etc.; of the Arteries, Ganglia, Muscles, Nerves, and Plexuses; of Weights and Measures, Thermometers, etc.; and Appendices containing Classified Tables with Analyses of the Waters of the Mineral Springs of the United States, and Tables of Vital Statistics. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xi–519.

Chronic Bronchitis and its Treatment. A Clinical Study. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. 176.

Chronic Urethritis and Other Affections of the Genito-urinary Organs. Three Lectures delivered at the Royal College of Surgeons, in June, 1889. By Matthew Berkeley Hill, M. B. Lond., F. R. C. S., etc. With Colored Plates from Drawings by Frank Collins, M. R. C. S., L. R. C. P. London: H. K. Lewis, 1890. Pp. viii–47.

Essentials of Forensic Medicine, Toxicology, and Hygiene. By C. E. Armand Semple, B. A., M. B. Cantab., L. S. A., M. R. C. P. Lond., etc. With One Hundred and Thirty Illustrations. Philadelphia: W. B. Saunders, 1890. Pp. xvi–196. [Saunders's Question Compends.]

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Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Congenital Malformations of the Eyeball and its Appendages.—Gunn (Ophth. Rev., July, 1889) considers the malformations of the eyeball in the order of their importance. The first in order is *anophthalmia bilateralis*, where neither eyeball is developed. In these cases the primary optic vesicle, when developed at all, never arrives at a stage admitting of the formation of a secondary optic vesicle, and is usually simply a short abortive bud on each side. Sometimes the mesoblastic tissues of chorioid and sclerotic are unrepresented. In nearly every case recorded there is a conjunctival sac, and the lids have almost invariably been found represented, though the palpebral aperture is frequently but partially formed. *Unilateral anophthalmia*, or *monophthalmia*, is more uncommon than the bilateral form. Developmentally, these cases of monophthalmia are to be explained by an absence of, or an arrest in, the primary optic vesicle on one side, not necessarily associated with any abnormity in the other optic vesicle or its development. In some cases the primary optic vesicles appear to have originated closely side by side, and to have joined as they developed further. This close position and ultimate union are probably to be accounted for by the absence of any median olfactory projection, for total absence of the organ of smell has invariably been found in association with this peculiarity. The ultimate result is the condition known as cyclopia, characterized by the presence of a single eye in the middle line of the forehead, with indications of its double nature in the existence of two crystalline lenses, a double set of extra-ocular muscles and nerves, and four eyelids. The fact that only one sclerotic, one chorioid and iris, etc., are formed, goes to prove that these mesoblastic structures are all molded on the secondary optic vesicle, and that there is no tendency to their formation in the absence of the epiblastic center. The other orbital mesoblastic structures have their dual formation as if in two distinct normal orbits, and the same seems to hold good in respect of the eyelids. The position of the epiblastic involution concerned in the formation of the lens is seemingly determined by the point of contact between the primary optic vesicle and the cuticular epiblast. The presence of two lenses in such an eye would thus be accounted for.

Plurality of eyes is rather a true monstrosity than an example of mere malformation, and is due apparently to development from a double anterior cerebral vesicle.

In *cryptophthalmia* the ocular structures developed from and around the secondary optic vesicle are perfect, while those originating in the cuticular epiblast and mesoblast are wanting. No eyelid or conjunctiva is present, and the eyes are quite hidden by skin passing smoothly over the opening of the orbit. All the posterior coats, with the retina and optic nerve, are present, but there is no lens.

In *microphthalmia* the eye is undersized at birth, and cases of this description may be roughly arranged in two groups—*developmental* and *pathological*. In the first group the cause of the microphthalmia is some arrest in the development of the secondary optic vesicle and the parts surrounding it, and the condition is commonly bilateral. In the second group are to be placed those cases of microphthalmia where one or both eyeballs are small in consequence of intra-uterine disease.

In such eyeballs are found evident traces of old inflammation—such as posterior synechiæ, chorioidal atrophy, or a shrunken opaque lens.

Megalophthalmia, or *buphthalmia*, is that condition in which the eyeball is too large. It is rarer than microphthalmia, and is more commonly confined to one eye. It is not due to an error of development, but to a congenital pathological condition occurring *in utero*.

Among congenital affections of the eyelids, *coloboma palpebræ*, or *cleft eyelid*, claims the first attention. It has frequently been found associated with hare-lip, but only once with an ocular malformation. This deformity is probably the result of the imperfect closure of the upper end of the oblique facial cleft. This arrest of development occurs early. In consequence of the persistence of the superficial part of the upper end of the cleft, the upper lid, and sometimes the lower also, will be developed in two parts, and a coloboma results.

Heterochromia Iridum.—Sym (Ophth. Rev., July, 1889) reports eight cases of this anomaly. Five of the eight cases were children of parents of different complexions. There seems to be no special tendency for the right eye rather than the left to be the "paternal" one, nor for it to adapt itself in color to the patient's own complexion. In all the cases in which there was an abnormal condition confined to one eye, the eye affected was that of which the iris was blue, whether the right or left, whether it were the "paternal" or the "maternal" eye. In none of them was there any local cause which might tend to produce disease of one eye more than the other. Is it likely that there is some condition manifested by want of pigment which predisposes to inflammatory and degenerative changes? Is there a greater liability to diseases of the vascular coat on the part of the "blue" eye, such as is shown in the table?

Apparent Movements of Objects associated with Giddiness.—Beevor (Ophth. Rev., July, 1889) defines giddiness as (1) the apparent movements of objects in definite directions, (2) the sensation of the person himself moving round, or (3) both sensations combined. In certain cases of epilepsy, giddiness had been observed as an aura, and in the large majority of these cases the apparent movement of the patient and of objects round him were in the same direction, and generally corresponded to the direction of initial rotation of the head in the fit. In auditory vertigo, in most cases, the apparent movement of the patient was in the opposite direction to that of objects around him. With the actual movement of objects before the eyes, giddiness was produced, as in the case of a waterfall; but, when the gaze was directed away from the water, only that part of the retina perceived secondary after-movements which was acted on by the image of the fallen body. The after-movements were always in the opposite direction to the real movements. If the eyes were fixed, giddiness was not produced, but the secondary after-movements were, and it is highly probable that the latter could be produced by a complementary sensation of movement in the rods and cones of the retina which had become exhausted by the continued movement.

The Light Sense in Optic Neuritis.—Berry (Ophth. Rev., July, 1889) reports the testing of the light sense in four cases of double optic neuritis from cerebral disease. In all, the acuity of vision was normal, and, when tested with Bjarrum's types, no light-difference defect was discovered, although the changes seen at the optic papillæ were very pronounced. This fact established a distinction between cases of ordinary optic neuritis and of retro-bulbar neuritis, which was suggestive of different alterations in the nerves in the two diseases. Berry suggests that in cases of neuritis or atrophy in which considerable amblyopia was present, with relatively good light-difference appreciation, there is a complete, or almost complete, interruption in the conductivity of a number of the fibers coexisting with a perfect, or relatively perfect, conductivity of others. On the other hand, where there is a uniform lowering of the conductivity of the fibers, a diminution in light-difference appreciation would precede and accompany the amblyopia.

Congenital Polycoria.—Franke (Kl. Mon. f. Aug., August, 1889) draws the following conclusions from his investigations on this subject: 1. An actual, multiple, congenital pupillary development in the sense of an arrest of development or of a malformation has not yet been observed. 2. It is very doubtful if a congenital, multiple pupillary development ever occurs without the simultaneous existence of a central pupil. 3. The cases of congenital polycoria with central pupil, if they do not belong to the domain of coloboma or cyclopia, are to be regarded either as simple defects in the iris tissue of varying shape and position, or as detachments of the iris from its anchorage. In the first case the cause of the defect is probably to be sought in faulty development of the chorioid. In the latter case the lateral openings are to be regarded as the results of injuries either during birth or in the fœtal state, or of intra-uterine inflammation.

A hitherto Undescribed Parasite of the Eye.—Przybylski (Kl. Mon. f. Aug., August, 1889) describes a curious parasite occurring in the eye of a soldier who did not know how his trouble began. Vision was $\frac{10}{200}$, and there was present a partial central scotoma and amotio retinæ. In the upper part of the lacerated retina, in the region of the macula lutea, there appeared a whitish body like a rod with red stripes. The upper part of this rod expanded like the head of a club, from which projected a shining conical excrescence. A smaller projection was to be seen by the side of the larger and a trifle lower. This condition lasted two weeks. Then the whitish rod became detached from the retina and appeared to be swimming in the vitreous. It also had somewhat changed in shape and resembled a flame. Under the influence of light the object changed its shape constantly, and its movements were quickened. Vision gradually rose to $\frac{20}{200}$, the detachment of the retina became smaller, and the lower portion of the whitish rod divided into two prolongations.

Cases of Trichiasis in which the Tarso-cheilo-plastic Operation was Performed.—Van Stillingen (Ctrlbl. f. prakt. Aug., July, 1889) calls attention to the rapidity with which the opacity of pannus clears up immediately after this operation is performed. In order to prevent relapses at the angles of the lids, some care is necessary. The intermarginal wound must be made as blunt-pointed as possible at the angles, and the skin suture must be introduced close to the line of the cilia. The conjunctival flap must be correspondingly blunt-pointed. In pronounced distichiasis the second inner row of cilia must be entirely excised. If the intermarginal wound does not gape sufficiently, which occurs when the conjunctiva is much shortened, a provisional tarsorrhaphy between the skin of the lower lid and the lower edge of the intermarginal wound must be made. If, in cases of trichiasis of the extreme lid angle, a relapse occurs, the cilia with their bulbs must be completely excised.

The Pathological Anatomy of Glaucoma.—Fontan (Rec. d'ophthal., August, 1889) gives the results of the examination of two eyes removed in a state of glaucoma. The first was a case of hæmorrhagic glaucoma in a woman aged forty, and the following conditions were found: 1. The canal of Cloquet persisted with gradual disappearance of its fibrous tract behind the lens. 2. There was glaucoma with total posterior synechiæ and excavation of the disc. 3. Hæmorrhage into the ciliary body and suprachorioidal space; atheroma of the vessels. 4. Pseudo-myxomatous transformation of the retina.

The second was a case of iridochorioiditis with calcareous cataract and hyperæmia and ossification of the chorioid, a rare complication.

The Action of the Aqueous Humor on the Lenticular Substance.—Gunn (Ophth. Rev., August, 1889) thinks that the cause of traumatic cataract is to be sought in the action of the chloride of sodium of the aqueous on the globulin of the lens. The solution of cataract after wounds or punctures of the anterior capsule is due to the fact that globulin is normally soluble in weak solutions of chloride of sodium, such as exists in the fluid of the anterior chamber.

The Hygrometricity of the Solid Portion of the Vitreous.—Hache (Rec. d'ophthal., August, 1889) considers that the hygrometricity of the solid part of the vitreous aids in maintaining a degree of tension in the posterior segment of the eye capable of keeping the retina in position on the stretch. The power of emptying the anterior chamber and extracting the lens without endangering the nervous membrane is due to the resistance offered by the vitreous to the exit of fluids.

Central Scotoma in Affections of the Optic Nerve.—Sachs (Arch. of Ophth., xviii, 2) furnishes an interesting series of observations on this subject. He thinks that if scotoma was the result of a disturbance of function of the macula, its relation to the vertical partition line would be symmetrical; on the contrary, it shows a marked tendency to extend from the macula toward the blind spot, very little of it lying in the middle near the vertical meridian. Furthermore, great discoloration of the temporal halves of the optic nerves is produced, notwithstanding evident continuous improvement in the patient's condition; and this symptom can not be explained by an ascending atrophy, for this can only be due to permanent changes in the retina of long standing. It is generally considered that the typical form and tendency to retrogression of the scotoma in alcoholic amblyopia are important arguments against the theory of retrobulbar interstitial neuritis. Chronic nicotine intoxication with resulting spasm of the vessels may explain the form of the scotoma and the nature of the visual disturbance, and may also account for the tendency to retrogression. Ascending atrophy of those optic nerve fibers which enter the anæmic retinal region might also be developed, if the arterial spasm be of long duration. It is an unsettled question whether the cases of insignificant disturbance of vision in relative scotoma of short duration are to be attributed to purely functional or circulatory anomalies of the retina and optic nerve, or are based upon partial degeneration of the optic nerve. Paracentral scotoma corresponds to a group of degenerated fiber-bundles of the optic nerve, passing from the porus opticus to the papilla, eccentrically situated at the lower and outer part of the nerve. Clinical and anatomical observations furnish undoubted evidence that it is not the nerve fibers in the axis of the nerve, running in the canalis opticus to the macula, that show the greatest tendency to disease, but rather those situated away from the center at the outer and lower periphery of the nerve. The disease probably commences in these, and also persists after conduction in the bundles running in the axis has been re-established.

Dividing the Capsule during the Corneal Section in Extraction of Cataract.—Knapp (Arch. of Ophthal., xviii, 2) considers that the advantages of this method are: 1. It simplifies the operation by combining two steps in one. 2. One instrument less is introduced into the eye. Its disadvantages are as follows: 1. In hypermature cataract, with a thickened or tough capsule, it is apt to fail or prove insufficient. 2. In tough capsules the knife enters well enough but does not readily come up. 3. Under all conditions, the technique of the section is more difficult. He thinks the operation is contra-indicated: 1. When the pupil is narrow. 2. When the anterior chamber is shallow. 3. Whenever the anterior capsule is tough or thickened. On the contrary, it is indicated: 1. When the pupil is moderately large. 2. When the anterior chamber is deep. 3. When the capsule is thin and frail.

Specific Optic Neuritis.—Horstmann (Arch. of Ophth., xviii, 2) draws the following conclusions from his observations: Primary specific optic neuritis is relatively a rare disease, occurring in one or both eyes of patients not very long after infection (from six months to three years). Antisyphilitic treatment is followed in the majority of cases by improvement, and sometimes by perfect restoration of sight. As a rule, the visual field remains somewhat concentrically contracted, and the optic nerve becomes paler than usual. The prognosis is better when the neuritis follows soon after the primary infection and when the patient is young. When the infection has occurred more than a year previous, the prospect of complete recovery is small, but an arrest of the process may usually be obtained. The worst form of specific affection of the optic nerve is the simple, non-inflammatory atrophy, dependent on syphilitic disease of the brain and spinal cord. All such cases end in total blindness.

A Handy Perimeter.—Schweigger (Arch. of Ophthal., xviii, 2) here describes a perimeter which may be held by the patient himself. The usual arc of a radius of thirty-three centimetres can be made much smaller, having a radius of twenty, or even of fifteen, centimetres. The visual axis is directed to a remote place situated in the prolongation of the zero point of the arc. The perimeter, having no complete semicircle, extends to 90° on one side only; on the other, to save space, to 30°. The object commonly used for eccentric vision, a piece of white paper of the size of five square centimetres, is fastened to a handle twenty-five centimetres long, and is passed along the arc by the hand. Colored papers are used to determine the limits of the color fields. The degrees are read off on the outer surface of the arc. To measure the angle of squint in the same manner, a light covered by a small screen is used, and this method has the advantage of measuring the deviation of the squinting eye from the parallel direction of the lines of fixation.

Muscular Advancement.—Cross (Ophth. Rev., October, 1889) considers that when the offending muscle is very powerful or there is an elongated globe, or when the muscle is unduly enwrapped within its tendon, a tenotomy should be performed. But when the eyeball is small and the motions are too free, or when the muscle is weak or atrophied, an advancement should be done. If binocular vision can not be hoped for, the appearance of it should at least be given. This will result in improvement of vision, especially if its development is encouraged by orthoptic exercises. In the operation of advancement Cross exposes the tendon, makes a central longitudinal incision, and ties the two halves in two firm ligatures, one end of each of which is left long. The tendon is then freed from the globe. The capsule on either side of the tendon is sewed more or less deeply, according to the effect required. Thus a firm basis of fixation on the eyeball is given. Two of these fixation loops must be applied—one above and the other below the corneal margin, more or less close to the median line. These stitches are then tied to the long ends of the first pair of stitches through tendon and capsule.

The Treatment of Glaucoma.—Hutchinson (Ophthalmic Review, October, 1889) submits the following propositions: 1. As a rule, a free iridectomy is the safest and best treatment for all forms of primary glaucoma. 2. It is always well to use eserine before resorting to operation. In a very small minority eserine will be found to completely relieve the symptoms, and in a still smaller minority the relief thus given may be permanent. 3. The continued use of eserine will seldom suffice to prevent the recurrence of glaucomatous tension, and in any case in which, in spite of it, the sight is declining and the field contracting, an operation should be resorted to. 4. The cases in which eserine are most useful are, first, those in which the disease has been induced by atropine; and next, those in which the disease recurs after long intervals. 5. The more nearly any case approaches to the type of acute glaucoma, the more probable it is that iridectomy will put an end to the process. 6. The more absolutely simple the case is, the less there is to be hoped from an operation. 7. Cases of simple glaucoma are not as a rule benefited by the continuous use of eserine, and the choice lies between letting the disease run its course and an operation. The progress of simple glaucoma is often very slow, and the interval is often long before the second eye is affected. 8. If simple glaucoma occurs in an old person, or to one in feeble health, the patient's sight may easily last out his life. 9. Iridectomy for simple glaucoma is often followed by immediate deterioration in sight and advancing pallor of the disc, with or without recurrence of increased tension. It can by no means be regarded as a harmless operation. When iridectomy is done for simple glaucoma, it should always be done very freely. 10. In the first instance iridectomy is preferable to sclerotomy, but, if a relapse has occurred, then the latter may be a better procedure for a second operation. 11. A certain number of glaucoma cases are in association with a definite inherited tendency to gout. 12. A certain number of cases of secondary glaucoma are susceptible of permanent relief by eserine. This remark probably applies to most cases of increased tension associated with interstitial keratitis. 13. If, after an operation for glaucoma, recovery has once been well established, and the increase of tension completely relieved, it is very rare indeed that the disease recurs.

The Investigation and Significance of Pupillary Symptoms.—Heddaeus (Arch. of Ophth., xviii, 2) divides the testing of the pupillary reaction into two parts: 1. Testing the mobility of the pupils. 2. Testing the reflex sensibility of the eye, or the power of an eye to respond to light and transmit the irritation to the nucleus. If on examination of a case the width and mobility of both pupils are found normal, it is unnecessary to test the accommodative reaction. If the width and mobility of one pupil be found normal, but there is no mobility in the other, a test of the reaction to convergence will show whether we have a case of (1) unilateral immobility, when the reaction to convergence is also wanting; or a case of (2) unilateral reflex immobility, when the reaction to convergence is preserved. When both pupils remain unchanged, though they be alternately covered and uncovered, numerous conditions may be the cause, and the test of the reaction to accommodation must be added. When this also fails, we have a case of (1) absolute immobility of both pupils. When one pupil reacts to the accommodation, the other not, we have a case of (2) reflex immobility of one pupil, absolute immobility of the other; when both pupils respond to convergence, but not to light, we have a case of (3) reflex immobility of both pupils. In cases of absence of the reaction to light, but preservation of the reaction to convergence, we must make a differential diagnosis between reflex immobility of both pupils and reflex deafness (so called) of both retinæ. Unilateral and bilateral reflex deafness (so called) may be complicated with bilateral, absolute, and reflex immobility of the pupils. Disturbances of the mobility of the pupils are always due to anomalies of the centrifugal pupillary fibers; disturbances of the reflex sensibility are always due to anomalies of the centripetal fibers. The most marked symptom of unilateral (or bilateral of different degree) disturbance of mobility is anisocoria; and anisocoria is always the result of a disturbance of mobility—an affection, therefore, of the centrifugal pupillary fibers. In cases of anisocoria we must first determine which eye is pathologically affected. When there is any doubt, it is always the eye in which the pupil is the less active. It must then be determined whether the disturbance is due to an affection of the oculo-motor or of the sympathetic nerve; in cases of pathologically dilated pupils, therefore, whether it is due to a paresis of the sphincter or an irritation of the dilator; in cases of pathologically contracted pupils, whether it is due to an irritation of the sphincter or paralysis of the dilator. Anisocoria is probably never due to anomalies of the centripetal pupillary fibers, though our knowledge of the course of these fibers is still defective. These fibers are known to be contained in the trunk of the optic-nerve peripherally from the chiasm, but we know nothing of their distribution in the retina. We do not know whether they are contained in the tractus optici, or whether they undergo semi-decussation in the chiasm. It is probable that their course coincides with that of the optic-nerve fibers to the corpora quadrigemina, but this has not been proved. The observations of hemianopic pupillary reaction seem to indicate that both kinds of fibers take the same course, but these clinical observations have not been confirmed by autopsies.

The System of Notation in Astigmatism.—Suarez de Mendoza (Ann. d'oc., July, August, September, 1889) thinks that the best method of notation is the symmetrical notation with reference to the median line of the body, the zero being placed at the vertical meridian: 1. Because it indicates, clearly and rapidly, both the error of refraction and the necessary correcting glass. 2. Because the same figures in the written examination and in the prescription for glasses point to the same directions. 3. Because the same directions with reference to the median line of the body are indicated in both eyes by the same figure. 4. Because the astigmatism symmetrical to the parallel direction is indicated as clearly as possible; it is symmetrical when the figures are identical, and parallel when the sum of the two numbers is 180°. 5. Because this system is easily adapted to the ophthalmometer by modifying the disc of the apparatus. 6. Because it is as simple as the dyssemmetrical method and at the same time more rational. 7. Because it has the advantage of being more simple to explain.

The Hyaloid Membrane and the Zonule of Zinn.—Hache (Rec. d'ophthal., July, 1889) draws the following conclusions from his investigations: 1. The membrana limitans interna of the retina does not exist posterior to the ora serrata. 2. The hyaloid membrane shows no modification of thickness, structure, or texture at the level of the ciliary region; it does not subdivide and has no connection with the lens, but is reflected at the level of the top or apex of the ciliary processes and is continued along their free border, thus doubling all the ciliary portion of the retina; it therefore appears as a hyaline membrane, very thin, separating the vitreous humor (of mesodermic origin) from the retina (of ectodermic origin), and thus resembling the vitreous lamina of the chorioid. 3. The zonule of Zinn really belongs to the vitreous humor. 4. The canals of Petit and Hannover are artificial products due to a division of the constituent parts of the zonule of Zinn.

Binocular Vision and Reflex Amblyopia.—Parinaud (Rec. d'ophthal., July, 1889) draws the following conclusions from his observations: 1. There are distinct cerebral centers for peripheral and for central vision. 2. As regards central vision, each eye in uniocular vision is in connection with the cerebral center of the opposite side. In binocular vision, the two eyes are in connection with a single hemisphere, which may be either the right or the left.

The Testing of the Light-sense and the Quantitative Color-sense, and its Application to the Examination of the Visual Power of Recruits.—Seggel (Arch. of Ophthal., xviii, 3) agrees with Wolffberg that the quantitative color-perception of the macula lutea is greater in anomalies of refraction than in anomalies of the light-sense. If in the latter the sensation of red or blue is more reduced, we may assume a disease of the light-conducting or of the light-perceiving apparatus, whereas an even reduction of the light-sense indicates obscuration of the media. The result of Seggel's examinations shows that the quantitative central color-perception is proportional to the acuteness of vision. If it is greater than the average, astigmatism and spasm of accommodation are present. If it is smaller, myopia exists. The examination of myopic eyes in male and female educational institutions led Seggel to conclude that for equal degrees of myopia the vision was less impaired in boys than in girls; the eyes of girls, therefore, should not be so much taxed as the eyes of boys. Among the deleterious consequences of over-taxing, diminution of the light-sense appeared earlier than diminution of visual sharpness. The examination of the central color-perception is therefore a more delicate dynamometer than the examination of vision.

The Form of the Orbit in Myopia.—Cohen (Arch. of Ophthal., xviii, 3) draws the following conclusions from his investigations:

1. The form of the orbit influences the course and insertion of the superior oblique muscle.

2. In low orbits this muscle has such a course and insertion as to cause compression of the eyeball, and, consequently,

3. The form of the orbit influences the development of myopia.

The Polypoid Tumors of the Conjunctiva.—Elschnig (Arch. of Ophthal., xviii, 3) understands by the name of polypus the pedunculated, projecting, hyperplastic proliferation of a strictly circumscribed locality of the mucous membrane throughout its entire thickness. Genuine polypi do not seem to spring from the conjunctiva at all, or at least, to be accurate, no such cases have ever yet been observed or described. The tumors which have been taken for polypi have been almost exclusively fibromata. Tumors of the conjunctiva which develop in polypoid form are: 1. The soft fibroma, which is only a particular form of tuberose fibroma of the conjunctiva. They are pedunculated growths from the conjunctiva or subconjunctival cellular tissue, which in the majority of cases arise from the conjunctiva of the lid, although they may spring from the ocular conjunctiva or the semilunar fold. They are distinguished by their rapid growth, and cause no trouble, except from mechanical hindrance or occasionally profuse hæmorrhage. The prognosis is favorable, and after abscission the wound heals without irritation and there is no relapse. 2. The hard, tuberose fibromata, which are more frequently situated on the conjunctiva of the lid and caruncle than elsewhere, and are generally of a hard, cartilaginous consistency. They grow as large as a bean or hazel-nut, and cause no particular disturbance, except by their size. They rarely relapse after removal. They exhibit a fibromatous structure, and are generally covered with a normal conjunctiva. 3. A small number of polypoid tumors, generally called polypi or warts, must be mentioned under the true title of papillomata. They are red, fleshy, slightly granular warts, which frequently relapse after removal, and only disappear after complete cicatrization of the corresponding portion of the conjunctiva. They are due to chronic inflammatory alterations of the conjunctiva. They should always be snipped off, and the base scraped and thoroughly cauterized.

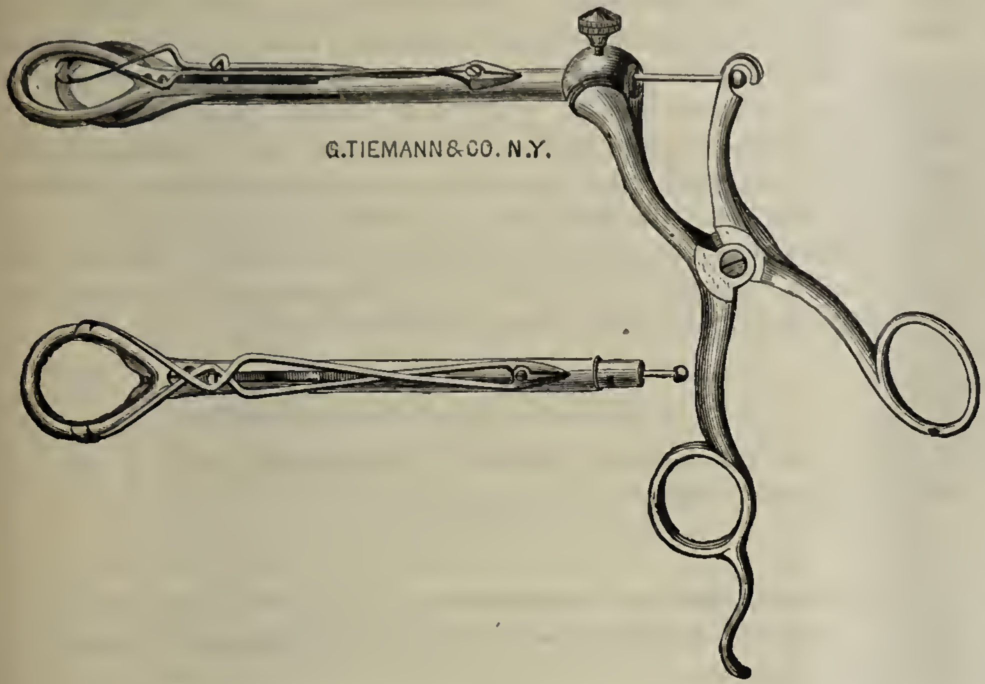
New Inventions, etc.

TIEMANN'S NEW AMYGDALOTOME.

By James P. Parker, M. D.,
KANSAS CITY, MO.

Of all the amygdalotomes that have been devised, the instrument known in this country as Tiemann's is probably the most popular. The only objection that could be urged against it was the inconvenience of attaching the blade to the handle by a screw, which led me to suggest a ball-and-socket attachment. As now modified and made by Messrs. Tiemann & Co., it is a very satisfactory instrument.

The blade is easily fixed in position by a thumb-screw, when the bar attached to the knife is drawn out as far as it can be, allowing it to drop into the slot of the handle; with the thumb of the left hand on the ball it is pushed forward until the ball glides into the socket. The blade is readily removed by reversing the manipulation.



By slackening the thumb-screw, the blade may be turned in position for the right or left tonsil. Its use requires but one hand and one motion, and the hand of the operator never obstructs the light. When once applied to the tonsil, only the closure of the scissors-handle is required. The tonsil is first pierced by the forks and raised from its bed, and then the knife is drawn home and cuts the gland, leaving it grasped by the forks. The instrument is easily taken apart and cleaned, and is therefore perfectly aseptic.

Miscellany.

The Medical Society of the State of California held its twentieth annual meeting in Los Angeles on the 15th, 16th, and 17th of April, under the presidency of Dr. Walter Lindley, of Los Angeles. The attendance was unusually large, and much interest was shown in the papers and discussions. Dr. W. R. Cluness, of Sacramento, was elected president for the ensuing year, and it was voted to hold the next meeting in Sacramento. A resolution was passed inviting the American Medical Association to hold its meeting in San Francisco in 1891. The following extracts are from Dr. Lindley's presidential address:

Doctors and Wine.—Nothing indicates more plainly the healthful advances in regard to diet than the changes that have occurred in physicians themselves. Two hundred years ago, and even much later, doctors were notorious for their eating and tippling, and were generally very fat. Dr. Beddoes was so stout that the ladies called him their walking feather-bed, and Dr. Fleming weighed 291 pounds until he reduced his weight by abstinence and eating a quarter of an ounce of Castile soap every night. Dr. Cheyne weighed 384 pounds, and the medical men were generally like two unwieldy noblemen to one of whom Louis XV said: "'I suppose you take little or no exercise." "Your Majesty will pardon me," replied the bulky duke, "for I generally walk two or three times around my cousin every morning."

It is said that it was during the seventeenth century, when doctors drank so heavily, that it became fashionable for them to write such illegible prescriptions, which was the result of their trembling hands.

The Relation of Physicians and Druggists, though not so strained as in the days of Sir Samuel Garth, the great London physician, who wrote the well-known poem The Dispensary, which covered the apothecaries with ridicule, is to-day a question worthy of serious consideration. As it was then, so it is now; the druggists to whom the physicians send their patients and prescriptions are constantly prescribing for the doctors' patients, and in many ways injuring the business which belongs to the educated physician, and at the same time maltreating the confiding customers. While I would not advise the organization of physicians to oppose and condemn the druggists, as was done in the latter part of the seventeenth century, yet I do advise every young physician to acquire the habit of dispensing, as far as possible, his own medicines. This is made very easy in these times by the elegant preparations which are sent to us already compounded by the manufacturing pharmacists. This method is also more facilitated by the greatly reduced quantity of medicine which is now given, compared with two centuries ago.

In urging this method upon the young physicians of to-day, I am also speaking in the interests of our patients, whose welfare, both physical and financial, should always be uppermost in our minds. Even the medicines, which would cost the physician but a few cents, and could be administered immediately, were the doctor his own dispenser, will cost the poor patient who takes the prescription to a drug-store a dollar or more, and cause delays, sometimes for hours, of the administration of the needed drug.

Those of us who have in years of practice acquired the almost unconquerable habit of writing prescriptions should see to it that our patients are sent to druggists who are both honorable and educated, and who will not try to substitute their own advice for that of the physician.

Healthy Offspring.—While in many ways the human race is progressing, and while the world is more temperate and charitable than in ages past, yet in many things we are really retrograding. Particularly is this the case in regard to the importance of raising healthy children. The Spartan woman's business was to be the mother of brave and robust children. This was one of the principal points observed by Plato in his Philosophical Republic. He proposed that the most excellent among the men should be joined in marriage to the most excellent among the women, and the inferior citizens matched with the inferior females, and that the offspring of the first should be brought up and the offspring of the others should not. Yet to-day the great majority of marriages are made without any thought or idea of the character or vigor of the offspring that are to result therefrom.

Recently the State Board of Health, perceiving the contagious nature of tuberculosis, have requested all Superior judges, before sentencing a prisoner to the State penitentiary, to have him examined by the county physician in order that special measures may be taken to prevent the contraction of this disease by other criminals. This movement we all applaud. But if the lives and health of these malefactors are so important, are not the lives of those who do not belong to the criminal classes important? Why should not the State adopt some means to prevent the marriage of individuals who have diseases that would be likely to be perpetuated in their offspring? There is not a physician before me to-day but knows of marriages that he realized were unwise at the time they were made, and that resulted in children who were born to suffering, sickness, and early death.

Now, what remedy can we offer for this terrible state of affairs, which is said to be undermining the strength of the people of California? If the county physician can examine every criminal before he is sent to the penitentiary, why should not every man and woman who desire a license for marriage be required, before such a license is issued, to show the county clerk a certificate from the county physician certifying that both he and she are free from any taint of consumption, gonorrhœa, syphilis, or scrofula? We certainly should do as much to protect the human race from degeneracy as the farmer would to protect the breed of his horses and cattle.

The physician has been the leader in many reformations, and he should be active in molding public opinion for many yet to come. It is a common practice among farmers to castrate and spay their animals for various purposes, and particularly to prevent poor stock from being multiplied. The ordinary colt is gelded, and the ordinary calf and pig are deprived of their procreating powers, but the ordinary diseased and idiotic human being is allowed to burden the State with a pauper and criminal offspring that becomes almost innumerable in the generations of which he is the ancestor.

It is true, the surgeon frequently spays his patient for various painful nervous and physical disorders, but our Government has not yet authorized the unsexing of any class to prevent its perpetuation and multiplication.

Zoroaster taught that the three most meritorious acts were to plant a tree, to cultivate a field, and to beget children; and the world hesitates to interfere with this God-given right. An idiot is deprived by law of some privileges, but not of this. The man who commits rape is sent to prison for a little while, receives freedom, and satisfies his passions with more consummate cunning, and the murderer ranges the face of the earth, protected by law in begetting a race of murderers.

Knowing, as all surgeons do to-day, that castration and spaying are simple operations that can be performed with about as little danger as the ancient rite of circumcision, I do not hesitate to advise that the following classes be required by law to submit to this procedure: Idiots, those who commit or attempt to commit rape, wife-beaters, murderers, and some classes of the insane.

Malpractice.—The numerous unjust cases of prosecution for malpractice in California are attracting the attention and unfavorable comment of the profession throughout the civilized world. The fact that in this State any person can bring suit against a physician for damages and put the physician to the expense of paying all the costs, regardless of whether he wins or loses the case, is, in my estimation, the cause of malpractice suits being far more frequent in California than in any other State in the Union.

It is only a short time since one of our ablest surgeons was obliged to defend, through a long and tedious trial, a most unwarrantable suit for damages; and yet, after his tedious and trying contest, before the jury were allowed to read the verdict, which declared him to be the winner in the suit, he was obliged to pay all the costs of the iniquitous prosecution.

Another Los Angeles surgeon, a homœopath, but a citizen of good standing and education, has recently been mulcted in a verdict of $7,000 damages; and yet the most unjustifiable case of all was that of our friend and fellow, Dr. Hagan, who, while Health Officer of the city of Los Angeles, obeyed the unequivocal mandate of the city law to remove a person with small-pox from a house where there were several families to the pest-house, where he attended her as he would one of his own family; and yet has had to defend for years a prosecution personally which should have been defended by the city corporation. First, there was a verdict of $5,000 damages; then the doctor got a new trial, but the second time there was a verdict of $7,000 damages, which the doctor, in all probability, will be obliged to pay. It is not my intention to-day to say whether the law requiring the removal of that patient was right or wrong, but I do say that, there being such a law, our colleague should not be the one to suffer. The city of Los Angeles, a great and rich corporation, should shoulder this burden, which would be to it a mere nothing, but yet which crushes an individual. We, as fair-minded men, should do all in our power to influence the Mayor and city council of Los Angeles to relieve the doctor from this load, which he incurred in performing the duty that devolved upon him as their servant.

It is really becoming impossible for a physician in California to hold property with any feeling of security; he works years getting his education, spends some of the best years of his life acquiring special knowledge, and is then, day and night, week-day and Sunday, rain or shine, at the beck and call of the poor, the destitute, and the suffering; and if, through frugal management, he and his wife accumulate a little property, he is almost invariably subjected to blackmailing from those whom he has heroically served. The physician who owns real estate, in order to secure the property to his family, to prevent them from the possibility of becoming dependent by the expense of defending some unjust suit, must do one of two things—he must either place his property in his wife's name or he must choose some other vocation in life. We should insist upon it, that the next Legislature provide some means of ameliorating our present status in the sight of the law. Four years ago the president of this society, Dr. W. P. Gibbons, of Alameda, suggested the framing and passage of a law which would cause the plaintiff to provide sufficient bonds to indemnify, in case of failure to sustain his charge, the physician or surgeon in all suits for malpractice.

The New York Academy of Medicine.—At the next meeting of the Section in Pædiatrics, on Thursday evening, the 8th inst., there will be a presentation of patients, and the following papers will be read: Surgical Treatment of Erysipelas: a Successful Case, by Dr. Dillon Brown; General Diphtheritic Paralysis involving the Extremities and most of the Respiratory Muscles, by Dr. G. W. Rachel. There will also be a discussion on Antipyretic Drugs in the Pneumonia of Infancy and Childhood, under the following divisions: 1. Do they Abort the Disease? 2. Indications for their Use. 3. Contra-indications. 4. Choice between antipyrine, acetanilide, phenacetin, and quinine. The discussion will be opened by Dr. A. Caillé. By invitation of Dr. A. Jacobi, the Section will meet at 110 West Thirty-fourth Street.

ANSWERS TO CORRESPONDENTS.

No. 317.—Probably Messrs. B. Westermann & Co., of No. 838 Broadway, could obtain the book for you.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, May 10, 1890.

Original Communications.

REMOVAL OF A VERY LARGE NÆVUS BY EXCISION.*

By CHARLES K. BRIDDON, M. D.

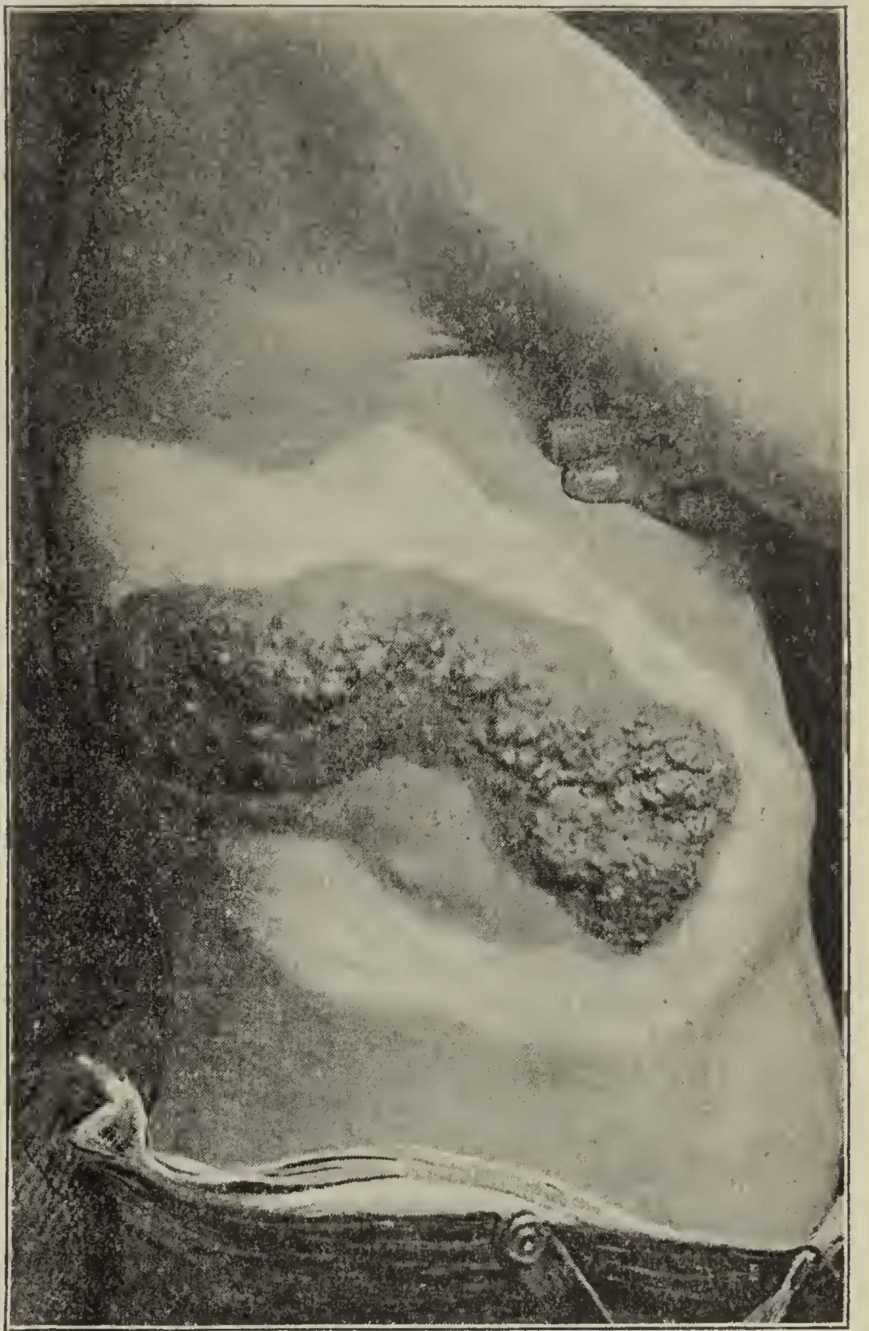
Case (reported by Dr. David M. Marvin, house surgeon).—Arthur H., aged thirty-nine, born in Scotland, single, occupation carpenter, admitted to service of Dr. Briddon in Presbyterian Hospital, in the city of New York, March 15, 1889. Family and personal history negative. On the right side of the chest is a large tumor, which existed at birth and has grown with his increase in size. Commencing near the vertebral column, it passes in an obliquely transverse direction to within an inch of the median line in front, a distance of seventeen inches; its short or vertical diameter varied from seven to four inches; its greatest thickness was estimated to be about three inches. Grasping it in the hand, it felt soft and spongy, with here and there disseminated through its substance small masses of harder consistence. A long strip, about two inches and a half wide, of integument was implicated in the disease, pigmented, angry red, maroon, violaceous in hue, and nearly the whole of this surface was coarsely granular, resembling the raspberry or mulberry. Beneath the portions of uninvolved skin could be seen the bluish, cavernous structure composing the larger portion of the growth.

Hæmorrhage is stated to have occurred frequently from slight abrasions of the granular surface, and on several occasions it is said to have been continuous and severe. There are several painful points near the circumference, sensitive to pressure; these pains have increased of late, but are not excessive. Around the circumference of that portion of the skin that is implicated in the disease are several circular cicatrices, marking points where needles have been introduced in the treatment by electrolysis.

The patient is fairly well nourished; pulse, temperature, and urine normal. Considering that the man was incapacitated from following his occupation, and believing that, with certain precautions, the removal of the tumor could be accomplished without very great danger to life, the proposition was made to the patient, who was anxious to have it done, although the dangers of the operation were plainly stated to him. Tonics, good food, and rest were ordered.

On March 25th, at 2.30 p. m., the patient was etherized, Dr. Briddon operating.

The site of operation was made aseptic, and every means for checking hæmorrhage was had in readiness. The patient was placed on his left side. Incisions four inches long were made an inch above and below the posterior portion of the tumor. A large metallic "meat-skewer" † was passed beneath the tumor, and an elastic ligature in "figure 8" around the skewer, constricting the anterior two thirds from the posterior third of the tumor, which was then dissected up from behind forward. The latissimus dorsi was so involved that it had to be severed, also the lower two serrations of the serratus magnus. A second "skewer" was then passed underneath the middle of the tumor and constricted as before, and the first "skewer" removed, the dissection being continued. The hæmorrhage was very slight indeed, and was easily controlled with artery forceps. The posterior half of the tumor was now removed, first ligating it in five parts with Thiersch's needle armed with heavy silk. The elastic ligature and "skewer" were removed without further hæmorrhage; size of raw surface nearly eleven inches. Relaxation sutures of silver wire diminished width of wound to about three inches. An antiseptic dressing was applied, bismuth subnitrate being substituted for iodoform.



The light area surrounding the pigmented portion of the tumor represents the subcutaneous part of the growth.

The patient bore the operation well, wound granulated nicely, and convalescence was uninterrupted.

April 26, 1889.—Second portion of tumor removed. Ether was administered, and the site of operation made aseptic. As much of skin as possible was saved, and, without using skewers or elastic ligatures, the mass was dissected from underlying intercostal and abdominal muscles. Hæmorrhage, though considerable, was promptly checked; the number of bleeding points ligated was estimated at about a hundred. Many large venous sinuses dipped deeply into the abdominal muscles and bled profusely till clamped. All hæmorrhage checked, the wound was thoroughly irrigated with a one-per-cent. solution of creolin. The incision of the two operations together was seventeen inches long, extending from two inches to the right of the vertebral column to the median line anteriorly. The anterior portion of the wound was brought together and sutured with catgut;

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* Read before the New York Surgical Society, February 26, 1890.

† These meat-skewers are not the small ones used by the retail butchers; they are the large ones used in the slaughter-houses, made of galvanized iron wire, a quarter of an inch thick, seven inches long, with a ring handle fully an inch in diameter.

the posterior half was approximated within an inch by relaxation sutures. Wound dressed as before; bismuth subnitrate freely dusted over its surface.

27th.—The patient recovered nicely from the ether; no secondary hæmorrhage.

29th.—The patient vomiting and purging; frequent watery movements attended with much tenesmus, and each containing blood. Suppression of urine for past twenty-four hours. A diet of milk and aqua calcis exclusively was ordered; diarrhœa allowed to continue unchecked. Temperature normal; pulse, 132 and feeble; mental condition fair.

30th.—Diarrhœa and vomiting diminished. Less blood in movements. Twenty-five ounces of urine in past twenty-four hours. Specific gravity 1·014, acid, contains twenty-five per cent. albumin by volume and abundant hyaline and granular casts.

Wound is *in statu quo.*

May 4th.—Condition steadily improving; urine sixty ounces yesterday, contained albumin fifteen per cent.; casts less numerous. Temperature normal; pulse 132, fair quality; diarrhœa and vomiting steadily diminishing.

Matzoon, beef-tea, and champagne (half-ounce doses) added to dietary.

8th.—Wound looks healthy, but is at a standstill. Bismuth is no longer dusted on wound, but, after irrigation with a one-per-cent. solution of creolin, it is dressed with stimulating ointment—bis. subnit., balsam of Peru, āā one part; ungt. zinc. oxid., ten parts. Vomiting and purging much diminished. Patient is emaciated and anæmic. He is given liq. ferri acetatis, gtt. v, q. 2 h.

11th.—Vomiting has ceased; slight diarrhœa remains. Temperature 101° F. last night, 99° F. this morning (temperature has previously been normal). Patient now takes a fair amount of nourishment and is looking much better. Urine sixty ounces daily, contains about ten per cent. albumin, but no casts are found. Claret, eight ounces daily, given in place of champagne.

18th.—Patient steadily improving. Urine still contains a trace of albumin; is clear and acid; specific gravity 1·009.

21st.—Patient increasing in flesh and strength; is allowed ward diet. Wound very healthy and is granulating nicely. Skin-grafting commenced.

26th.—Patient sat up to-day for the first time. Urine is now negative.

June 3d.—Ulcer is now five inches by an inch and a half. Skin-grafts have all taken, and to-day two more were placed in center of ulcer. Patient looks very much improved, and goes about the ward every day. Urine very abundant, pale; specific gravity 1·006, acid, otherwise negative. He is ordered liq. ferri acetatis, gtt. xxx, t. i. d. (instead of gtt. v, q. 2 h.).

12th.—Skin is steadily covering ulcer both around the margin and in the center where grafting was done. Every graft has taken nicely. Patient is gaining in flesh and strength, and commences to look more like his former self. As yet there is no cicatricial contraction.

September.—The surface is entirely healed, but there are two sinuses in the center of the cicatrix that continue to discharge. On opening these, a piece of necrosed cartilage was found and removed, after which they entirely closed.

Report of Dr. John S. Thacher, Pathologist.—The specimen includes two masses—one received at the laboratory March 27th and the other April 27, 1889. They resemble each other in size and appearance; each is flat, five to six inches in diameter, and an inch and a half to two inches in thickness; when received, one surface is covered with skin in which there are several cicatricial patches and petechiæ; and the mass consists largely of adipose, some dense connective tissue, muscle, and integument. Blood-vessels are very numerous and large, many measuring a quarter of an inch in diameter, irregularly distributed, partly in bunches and many close to the surface.

Microscopical examination of sections from different parts shows the specimen to consist principally of adipose with covering of skin. The corium is thickened in parts, and there are numerous patches of proliferating connective tissue beneath the skin. There are also many spots of inflammatory infiltration of small cells both in the corium and subcutaneous tissue. Blood-vessels are everywhere and large, and clusters of them are conspicuous. Some have regular and distinct walls, others irregular and very thin, and many of the largest are close to the surface. In parts there is an abundant deposit of light-brown pigment in the interstices of the tissue and in the cells.

I append the following abstracts from various sources:

As far as time has permitted me to look up the literature of the subject, I have not been able to find a case of excision of nævus equaling in magnitude the one recorded above. In Guy's Hospital Reports, Lancet, September 8, 1885, is the history of a case in which Mr. Birkett removed an immensely large-shaped nævus growth from the walls of the abdomen and side of the chest in a middle-aged man (H. R.) on August 28th.

The characters of the tumor in a surgical point of view were very remarkable. It was excessively thick, broad, and hard, with a semi-elastic feel, not unlike fibro-cartilage; its surface was studded with wart-like eminences, the whole tumor exhaling a sort of sanguineous serum, which was evidently draining away much blood and beginning to weaken and destroy the man's health very considerably; his countenance was expressive of great suffering, his face chlorotic and of a yellowish-green appearance. The tumor was quadrilateral, reaching from the integuments covering the ribs on the right side down over the hip and entire crest of the ilium.

The dissection of such a mass away from the thin abdominal walls required great care; nor was it possible, with the greatest solicitude, to remove the entire mass without adhering traces, and few and far between the fibers of the external oblique muscle.

Mr. Birkett at the operation expressed the opinion that the structure of the tumor was that of erectile tissue and quite analogous, in fact, in microscopic structure to that o the erectile tissue of the corpora cavernosa. The skin is the most frequent site of such growths, which are composed fo the most part of spaces separated by intervening columns o fibrous tissue, lined by epithelium, and distended with blood remarkable only for the quickness with which they grow and not infrequently excited to renewed growth by contusion, or other cause of irritation, differing very little, if any thing, from the smaller nævi.

The remaining case and subsequent remarks are fron an article on the Treatment of Nævus by Excision, by Rob ert William Parker, Surgeon to the East London Hospita for Children, read before the Clinical Society, May 28, 1886 and I think they fairly represent the advanced treatment o the conditions under consideration.

Sarah H., aged ten months, large mixed nævus, situate between the scapulæ, over the upper dorsal spinous pro cesses, congenital, and has grown continuously since birth, two inches and a half to two inches and three quarters, circular, and considerably elevated above adjoining surfaces. Removed by elliptical incisions; skin and subcutaneous tissues were dissected off on either side, and nævus fully exposed. Having arrived beyond its edge, it was easily shelled off its deeper attachments, except at one or two points, where the nutrient vessels appeared to enter.

The only other treatment besides excision is electrolysis. Of this I would say that when, from position, size, or other circumstances, excision of the nævus is contra-indicated, electrolysis is the best plan to fall back upon. In cases of soft, semi-cavernous nævi—that is, in which the vessels are believed to be dilated into spaces—electrolysis may be very advantageously tried. Several platinum needles, according to the size of the nævus, attached to the positive pole, may be passed in, and the circuit completed by placing a sponge-covered rheophore on the surface somewhere near at hand.

In the ordinary subcutaneous nævus, needles connected with both poles may be inserted (their points should not touch), five to ten or fifteen cells, according to circumstances, for ten or fifteen minutes.

Excision of nævus is a very old plan of treatment. Save in a few exceptional cases and places, I believe it to be the most widely applicable of any of the methods of treatment to which reference has been made.

When a nævus is quite subcutaneous and the superjacent skin normal, an incision should be made over the center of the nævus and the skin turned back as two flaps; but when the skin is involved, it is better to remove it along with the deeper part by means of long elliptical incisions.

The Microscopic Characters of Nævus.—Though nævi vary much according to their age and position, they nevertheless present pretty constant features. Old and stationary nævi are sometimes found to be undergoing cystic degeneration, others to be slowly disappearing from ingrowth of connective tissue. When removed from young infants, and especially such as are increasing in size, they will be found to consist most frequently of hypertrophied arterioles, situated among other structures such as are common to the locality. Thus, on the scalp and face, which are both seats of election, the nævus growth will be among and surrounding the hair follicles, the sebaceous and sweat glands. In a minority of cases the nævoid vessels appear to be chiefly venous. It would appear, therefore, that the nævus is essentially some congenital pathological condition of the capillary plexuses which normally surround the appendages of the skin. The growths are continuous with the skin and subcutaneous tissue, but separated from the deep fascia by a delicate capsule, and readily peeled off; in a few cases, however, the growth has been found to have invaded the muscles and their investing fascia.

In the Centralblatt für Chirurgie, September 7th, Dr. Th. Gessler gives a report of 221 cases of angeioma occurring in the Tübingen clinic. Speaking of the various methods of treatment employed, Gessler records 60 cases treated by excision, 73 by ignipuncture, and the remainder either by the galvano-puncture, ligation of their nourishing arteries, or injection of the chloride-of-iron solution. In 10 of the most severe cases electrolysis was resorted to, and in 9 of these it proved to be successful.

ON LIGATURE OF THE FEMORAL VEIN.*

By FREDERIC KAMMERER, M.D.

The admissibility of ligation of the femoral vein after injury to the same, as well as during the operation for removal of tumors from the inguinal region, has been a question of keen surgical interest, especially during the latter half of this century. The solution of this question has been attempted by the experimental method and from the records of clinical cases. The former has yielded results only in one direction, *i. e.*, on the cadaver, and it has been frequently resorted to, first by French (Sappey, Roux, Nicaise) and then by German (Braune, Braun, von Bergmann) surgeons. It has been demonstrated that the femoral vessels can be ligated in the dog, individually or together, without endangering the vitality of the limb. Again, the ingenious idea of Kraske, of observing the effect of ligation of the vein only, or the vein and the artery, in the web of a frog's foot under the microscope, has given no positive information owing to the impossibility of accurate observation. It would, however, seem that the consensus of opinion has of late been in the direction of ligation of the common femoral vein only in wounds of the same, and that simultaneous ligature of the common femoral artery, both as a means of checking venous hæmorrhage and of preventing venous stasis, has been abandoned. It is true that some years ago the proposition of ligating the superficial femoral artery to prevent engorgement of the limb after ligature of the vein was made in an important paper read to this society.† On anatomical and physiological grounds, however, I do not believe that this recommendation ought to be generally adopted. Another plan, practiced indeed in a few instances, has been the ligature of the common femoral artery only for hæmorrhage from the vein. But this alternative will, I trust, find few advocates at the present day. We have learned empirically to adopt certain measures in injuries to the vessels, but we can not speak definitely about the physiological and anatomical data governing our methods of interference. The authors are even still at variance about the collateral paths after ligature of the vein. Of what nature is the venous stasis that invariably follows ligature of the normal vein, and by what anatomical arrangements is it generally and so rapidly relieved? What part does the internal saphenous vein play as a collateral branch, when the femoral is ligated immediately below its entrance and above the deep femoral? The latter consideration was brought to my mind by one of the two cases that I have the honor to report to the society this evening:

Case I.—W. L.,‡ a well-developed lad of nineteen years, a butcher boy, while attempting to cut meat hanging high on the wall, lost his hold on a long pointed knife which he was using. The point of the falling knife struck the patient about an inch and a half below Poupart's ligament on the right side. Immediately a large quantity of blood issued from the wound, saturating his clothes. The patient rushed along the hall-way in which he was standing and up one flight of stairs, but there lost consciousness and fell to the ground. Some of his colleagues that had followed him immediately compressed the site of the wound with a folded napkin. On my arrival I secured this and had the patient removed to the surgical clinic. On the operating table the patient had a somewhat anæmic appearance, his pulse was small and rapid, and he complained of much thirst. On removing the temporary bandage, a severe hæmorrhage immediately followed, but this was readily controlled by compression at Poupart's ligament. An inspection of the wound showed it to be scarcely an inch in length, with clean-cut edges, and situated rather a little to the outside of the course of the femoral vessels, but its direction in the deeper parts was inward and downward, bearing directly upon the vessels themselves. I first enlarged the wound and attempted to find the source of hæmorrhage *in loco*, but I soon desisted in this, as the parts could not be easily distinguished and the necessary manipulations caused renewed hæmorrhage, although firm compression was continued above. I therefore enlarged the incision upward to Poupart's ligament and there ligated the common femoral artery. Another ligature was placed about an inch and a half below the seat of the original trauma, the nearest spot at which the artery could be easily found. On discontinuing compression in the groin, the arterial hæmorrhage appeared to cease, but after another moment a steady and abundant flow of dark blood showed that the vein also must have been injured. I now applied an Esmarch's bandage below the injured vessels and had the pressure at Poupart's ligament discontinued, but only after the finger of my assistant had been introduced far into the track of the wound did hæmorrhage cease. The moment the finger was withdrawn a large quantity of dark blood flooded the field of operation. I now passed a ligature underneath the femoral vein, exactly below the opening of the internal saphenous, and another three inches further toward the periphery, including the injured part between them. All other attempts at controlling hæmorrhage when the finger in the wound was slightly withdrawn being unsuccessful, I finally tied both ligatures, with the result that it ceased immediately. While I was thoroughly disinfecting the wound a renewed arterial hæmorrhage set in from the deep femoral, which happened to branch off at the point at which the artery had been wounded. The deep femoral was dissected out and secured, and that part of the common femoral included between the ligatures excised, hæmorrhage being now definitely controlled. A few sutures were passed, drainage was established, and the limb, packed in cotton, was placed on a Volkmann's splint. A few hours after the operation the circulation in the skin had become re-established to about the junction of the middle with the upper third of the leg, the rest of the limb apparently remaining bloodless. On the day following the accident, the patient having entirely recovered from the effects of the trauma and the operation, the leg appeared pale and cold; on the plantar surface dark-red lines and spots were visible; no pulse could be felt in the posterior tibial. Complete anæsthesia was noted in the affected portion of the limb, which formed a marked contrast in color to the unaffected part that appeared a little flushed. On the third day the temperature began to rise, and reached 104° on the fifth. At the dressing on this day the wound surfaces had an unclean appearance, and were covered with sphacelated particles. The line of demarcation was still at the old place. On the following day the patient became delirious, the temperature still averaging 104°. On the seventh day, thirty-six hours after the last dressing, it was apparent that the deeper tissues in the wound were in a condition of gangrene, and the original line of demarcation in the skin had traveled to the middle of the thigh, corresponding to the lower border of the dressing. The patient was covered with cold perspiration, pulse 160, hardly perceptible; death in the evening of the seventh day.

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* Read before the New York Surgical Society, February 26, 1890.

† L. S. Pilcher, New York Medical Journal, 1886, xliii.

‡ This case came under my care in the summer of 1884 at the surgical clinic of Freiburg, Germany, in the absence of Professor Kraske.

Case II.—W. S., aged forty-two years, was admitted to the German Hospital in this city on September 10, 1889. Eight months previously the patient had first noticed a small tumor in the sulcus between the prepuce and the glans penis. Toward the middle of June the left inguinal glands became infiltrated. On admission to the hospital, the entire penis was converted into an irregular tumor involving the glans and the greater part of the pendulous portion. In the left groin immediately below Poupart's ligament was a mass of hard glands the size of an egg. The right inguinal region was not affected. The patient being in a fair condition, I concluded to attempt operation under ether. I first amputated the penis at the symphysis with the knife. I then made a longitudinal incision over the glandular tumor and found the vessels lying externally. After some attempts to separate them from the glands it was considered a safer plan to search for them at the superior and inferior border of the tumor, in the hope of thus more readily avoiding their injury in the final act of separation. Only with much difficulty was the femoral artery detached from the tumor. I was not so fortunate with the femoral vein. After prolonging my original incision beyond Poupart's ligament, I tried to separate the tumor from above. It seemed, however, to be so firmly attached to the anterior wall of the vein that I concluded to ligate the latter at Poupart's ligament and remove that part of it lying beneath the tumor. This dissection proved more difficult than I had anticipated, and I was compelled to abandon the operation on account of the patient's condition before I had secured the femoral and saphenous vein with a distal ligature. I packed the wound loosely with gauze, introducing it beneath the tumor, which I hoped to remove in a few days. Very few moments after the common femoral vein had been ligated did the symptoms of venous stasis become apparent in the entire limb. The latter rapidly became cyanotic, and this condition grew more pronounced until about three quarters of an hour after the ligature had been applied, when the whole limb was of a dark-blue color and distinctly colder than its mate. The cyanosis then began to disappear, and late in the evening very little difference in color could be detected in the two extremities. Early the next morning (the ligature had been placed at 6 P. M. on the day previous) the only abnormal condition was a slight congestion of the affected limb. There were no motor or sensory disturbances and the temperature was to all appearances the same as that of the sound limb. Toward noon the patient became restless. No urine had been passed since the operation, and, although the catheter readily entered the bladder, none was withdrawn. The temperature in the rectum varied between 102° and 103° in the afternoon. The wound was dressed at 3 P. M., as a good deal of oozing had occurred. Toward evening the patient became delirious and could only be restrained by main force. Catheterism was again practiced with the same negative result. The patient died the next morning, about thirty hours after the operation, having secreted no urine since he was carried from the operating table. No albumin had been found in the urine previously. A post-mortem examination was not allowed.

It seems that Richet* was the first to make experiments on the cadaver with a view to the solution of the question whether or not the veins of the trunk could be injected from the veins of the lower limb after ligature of the common femoral vein. He found that numerous veins at the root of the limb filled with the injected fluid, the latter reaching also the external and internal iliac veins by anastomotic branches between the pudic and the veins of the pelvis on the one hand, and the circumflex and ischiadic on the other. Sappey[*] attempted to show that the femoral vein was the only outlet for the blood of the lower limb by injections into the dorsal veins of the foot after ligation of the femoral. He found that the injected matter did not reach the pelvis. This he believed to depend upon the presence of valves in the course of those veins that by their communication form the venous circles between the femoral and the iliac. "These numerous and most perfect valves oppose a reflux of the blood or render the same at least very difficult." At this time successful cases of ligature of the femoral vein only had been published by Roux[†] and Malgaigne.[‡] Roux, who in 1813 had made known a case of bullet-wound of the common femoral, in which ligature of that vessel had been followed by gangrene, now related a personal experience, which occurred to him during extirpation of an inguinal tumor. He was obliged to ligate the femoral above the opening of the saphenous, and, although the symptoms of stasis and retarded circulation soon became apparent, and œdema of the entire limb was noted on the third and fourth day, complete restoration was finally attained. Malgaigne also had the misfortune of wounding the femoral vein, and his patient only succumbed after many days from recurring hæmorrhages, no gangrene having developed. And now Nicaise,[#] repeating the experiments of Sappey, showed that failure to reach the pelvic veins in the latter's injections was due to the employment of a solidifiable material, and that a mixture of turpentine and vermilion readily passed into the branches of the internal iliac, a fact which Sappey himself admits in the last edition of his anatomy.

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* Traité pratique d'anatomie médico-chirurgicale, second edition, Paris, 1860.

One of the most valuable contributions to the anatomy of the femoral vein and its tributaries was that of Braune.[‖] Braune was the first to point out definitely which are the collateral arches available when the common femoral vein is closed. Of the many deep and cutaneous veins that empty into the femoral, the internal circumflex is by far the most important, as it helps to form both the ischiadic and the obturator venous circles, the former a direct venous communication between the femoral and the inferior gluteal, and the latter between the femoral and the external as well as the internal iliac vein through the obturator foramen.

Braune further accurately described valves at the openings of these veins into the common femoral placed in a manner to prevent the reflux of blood from the latter. He only admitted the possibility of a collateral circulation through the obturator venous circle when the internal circumflex was not provided with valves, this being an exceptional condition. Braune attempted to prove the correctness of his views by the injection of milk into the venous system of the limb after ligature of the common femoral vein. In these experiments he found that a pressure of over three feet and a quarter was necessary to cause insufficiency of the valves. In another part of his publication Braune sought to bring these data into accord with the clinical records at his disposal at the time. His conclusion, that the only means of preventing gangrene was to be found in the simultaneous ligature of the common femoral artery, seems to have influenced the action of surgeons for a considerable period, until favorable cases pointed toward a reinvestigation of his experiments. Braun,[*] of Heidelberg, in repeating them, found that in eighty-five per cent. of the limbs experimented on, a pressure of six feet and a half was sufficient to drive the injected fluids to the pelvis after ligature of the vein. But in many instances a much smaller pressure accomplished the same purpose, and in a few a pressure far exceeding any that could ever exist in the femoral artery of the living was unable to open the collaterals. I believe that only one other author has since experimented in this direction—von Koretzky.[†] He limits himself to a verification of the results of Braune. In by far the greater number of his experiments he did not succeed in forcing the liquid into the collateral branches, even under a pressure of six and a half to ten feet.

The results obtained by the experimental method are conflicting and very few facts can be gleaned from them. Indeed, it seems that the only outcome from their comparison is the great ease with which the pelves in old cadavers were reached by the injected fluid. This is absolute in Koretzky's experiments, but only applies in a limited way to Braun's. Braune does not mention the age of his subjects.

Von Koretzky has collected twenty-eight cases of ligature of the vein alone or of both femoral vessels in Scarpa's triangle. Barring seven of them, which are either cases of ligature of the external femoral vessels or have been incorrectly reported, there remain twenty-one cases, some of which I have not been able to find in literature, as the author gives no references. Adding to these twenty from Braun's statistics and nine that I have collected since 1883,[‡] including Koretzky's and my own, we have a total of fifty—twenty-eight ligatures of the vein alone and twenty-two of the vein and artery. In only two instances of the former did gangrene result to a greater or less extent. Nineteen of the twenty-eight were tumors either of the inguinal region or of the femur, and here the vein was accidentally injured during the operation for removal or was so firmly attached to the growth that it had to be removed in part with the same. In the remaining nine cases there existed no disease prior to the lesion of the vessel, or the case was one of inflammatory bubo. I think we can safely assume in the latter instances that the circulation in the limb has suffered no changes. It has been frequently pointed out that tumors of the thigh and the inguinal region may lead to the formation of new blood-vessels or to a changed circulation in the old ones by gradual compression of the femoral vein. Where this is the case, and it becomes necessary to ligate the vein, this can be done without the fear of gangrene. Denuce mentions a case in which the vein was surrounded by sarcomatous tissue, its lumen entirely obliterated, and still there existed no œdema of the leg or other symptoms of venous congestion. On the other hand, Rose tells us of a case in which the vein passed through a mass of carcinomatous glands without any perceptible alteration of its caliber. Now, the larger number of the nineteen cases were secondary glandular deposits after operations for cancer of the genitals, and it seems that in many of them, at least, the circulation through the femoral vein was not impeded, and that therefore they ought not to be absolutely excluded as having no weight on the question of ligature of the normal vein. We must remember also that one of the only two cases followed by gangrene is not established beyond all doubt—Linhart's,* in which the femoral vein was tied for laceration of both external vessels. Ligature of the common femoral artery for wounds of the vein can hardly be seriously entertained from a clinical point of view to-day. The cases in which both vessels had been injured and their ligation became compulsory very frequently resulted in gangrene. In twenty-two of the fifty cases in which the artery and vein were ligated, gangrene followed the operation twelve times; eleven were for tumors, and nine for injury to the vessels. Twice the cause for ligation could not be discovered, but in both cases gangrene followed. The remaining ten cases of gangrene are distributed equally between the operations for tumors and for injuries. I have included my own case among the latter, in which I ligated the artery above and below the deep femoral and the vein between the openings of the deep femoral and the internal saphenous, because it seems to me that the collateral paths by the latter vessel are not so numerous as has been generally assumed. It is a noteworthy fact that the greater number of patients in whom gangrene developed were young persons about twenty to thirty years of age. The oldest was fifty-one. Of a few I have not been able to discover the age. It is to be regretted that no similar inference can be drawn from the only two cases of gangrene after ligature of the vein. In Roux's case the age of the patient is not mentioned, and in Linhart's it is not stated what was done for the torn femoral artery. We can not, therefore, adduce clinical experience in support of the theory that in old persons ligature of the femoral vein is a safer proceeding than in the young. The cases of simultaneous ligature of the vein and artery, of course, prove nothing on this point, as gangrene can be due to the ligation of the artery as well as to that of the vein.

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[*] Sappey, Anatomie descriptive, tome ii, 1869.

[†] Roux, Bulletins de la société de chirurgie de Paris, 1854.

[‡] Malgaigne, Traité d'anatomie chirurg. et de la chirurgie expériment., Paris, 1859.

[#] Nicaise, Des plaies et de la ligature des veines, Thèse, Paris, 1872.

[‖] Braune, Die Oberschenkelvene des Menschen, II. Ausgabe, Leipzig, 1873.

[*] Braun, Langenbeck's Archiv, vol. xxviii, 1883.

[†] Von Koretzky, Langenbeck's Archiv, vol. xxxvi, 1887.

[‡] Alberti, Deutsche Zeitschrift für Chirurgie, vol. xx. Kraus, P., Die isolirte Unterbindung der Vena femoralis communis, Berlin, 1885. Schober, Die Unterbindung der Vena femoralis communis, Würzburg, 1885. Demuth, Vereinsblatt der pfälz. Aerzte, 1888, iv.

That increased tension in the venous system of the limb after ligature of the common femoral vein has proved an important factor in the good results obtained, and that it ought to be maintained, if this is in our power, has not always been accepted. Yet, in my opinion, this follows from a study of such cases. Gangrene does not result from increased blood-pressure, especially in the veins—a condition always manifested by more or less cyanosis of the limb immediately after ligature of the common femoral vein. It is in consequence of an arrest or retardation of the circulation that gangrene develops, and the congestion is a symptom of these conditions only. The collateral circulation in the limb is either established by the breaking down of valves, or by the development of collateral paths in a multitude of minute branches—a view which has been lately taken by Pilcher.* We can not as yet speak definitely on this point; but, when we recollect that most of the veins of the lower limb are provided with valves, it seems difficult to understand by what means the circulation in the foot, for example, will be maintained through only the very smallest veins that possess no valves. I believe that the breaking down of the valves in the collaterals takes place but shortly after the ligature has been applied, as soon as the tension in the venous system has sufficiently increased, but that it then takes some time for the valves to become permanently insufficient. When this has been accomplished, the congestive symptoms in the limb will disappear. We know this generally occurs several hours after ligature, and I think this fact rather points to the opening of some large collateral vessel than of smaller branchlets. And, if this is true, then the *vis a tergo* in the arterial system is certainly of great importance. In support of this we may quote Rabe,† who, among one hundred and seventy-eight cases of ligature of the common femoral for elephantiasis, trauma, and aneurysm, found twenty-five that were complicated with gangrene. This is a much larger percentage than in cases of ligature of the vein alone, but a much smaller one than in those of ligation of both artery and vein, which I have collected. There exists, no doubt, then, an element of great danger in simultaneous ligature of the common femoral artery, especially when we are compelled to include the deep femoral, as in my case, thus almost entirely shutting off the blood-supply of the extremity. And herein I see the danger of prophylactic ligature of the superficial femoral. When the latter vessel is occluded at the same time with the femoral vein, very little blood will pass into the leg and foot through the deep femoral artery and the tributaries from the gluteal vessels in the posterior part of the thigh, since it can more readily return to the trunk by the synonymous veins.

I have failed to find definite statements as to the part played by the internal saphenous vein as a collateral when the common femoral vein has been tied between the openings of the deep femoral and the saphenous. Some authors, for example König, in his well-known text-book, only treat of the ligature of the femoral vein above and below its union with the deep femoral. Von Bergmann, Maas, and others speak of ligature below the internal saphenous as having no bearing on the questions under consideration, apparently deeming that vessel a sufficient collateral for the leg. In the works of anatomy of Quain, Henle, Hyrtl, and Rudinger no mention is made of the length of that part of the common femoral lying between the openings of the internal saphenous and the deep femoral. In six limbs I have found it to be about three quarters of an inch to an inch—a distance of sufficient length to permit of a ligature being conveniently placed. The internal saphenous is preeminently a cutaneous vein. Quain[*] tells us that in the leg it communicates with the anterior and posterior tibial veins, and that in the thigh one or more branches pass between it and the femoral vein. Henle[†] only mentions one anastomosis with the internal plantar vein, but Braune[‡] several with the deep veins of the leg, and especially one with the posterior tibial, about three inches above the internal malleolus. Of this, however, he distinctly says that its valves prevent the flow of blood from the deep veins to the saphenous. I have found certain clinical data in support of the view that the cutaneous and deep circulatory systems are to all purposes distinct. Pilcher[#] refers to an interesting case of Browning, where ligature of the internal saphenous was followed by chronic œdema of the whole limb, which entirely unfitted the patient for work, even after six months. The post-mortem examination in Kraske's[‖] case of bullet-wound of the femoral artery and vein showed that the skin and the deep tissues were gangrenous to an unequal degree. Whereas the muscular tissue was only intact in the neighborhood of the wound, the skin had regained its vitality after operation as far as the upper third of the leg. This can only be explained, Kraske thinks, by an insufficient communication between the circulatory system of the skin and that of the deeper tissues. In four limbs, after ligating the common and the deep femoral veins, I injected milk into the femoral artery by means of a long tube and funnel, thus enabling me to accurately control the amount of pressure. The pressure was slowly increased, and it was always observed that the common femoral vein, below the ligature, began to distend under a pressure of about one foot. Only when a pressure of three and a half to five feet was reached, blood and milk began to flow slowly from the saphenous vein, which had been cut across. If at this juncture the femoral vein was punctured, the injected fluid issued forth with much force, showing that the pressure was greater than in the saphena. In every experiment the milk was found to have penetrated to the internal saphenous below the malleolus internus. From this it will appear that the collateral circulation by the saphenous is not a question beyond all discussion. The dangers of ligature of the vein at the point in question will be especially great when, as in my own case, the *vis a tergo* in the arterial system has practically been entirely cut off.

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* Compendium der chirurg. Operationslehre, Wien, 1874.

* Pilcher, *l. c.*

† Rabe, Deutsche Zeitschrift für Chirurgie, vol. v.

Lateral ligature of veins was formerly a hazardous procedure. Death generally followed from secondary hæmorrhage dependent on suppuration or from pyæmic thrombosis. But the method employed aseptically will prove a valuable addition to surgical technique. Maubrac,[*] in a paper to which, I regret to say, my attention was only called a few days ago, warmly advocates lateral closure, more especially when the lesion of the vessel is small. Of the three methods, lateral ligature, application of hæmostatic forceps, and suture of the walls, the last method has undoubted advantages. It has been used with excellent result in the femoral vein, among others by Schede[†] and Lange.[‡] That the aspirations of von Koretzky,[#] of resection and suture of the vein, will ever be realized, I venture to doubt, although the author bases his proposal upon a successful suture of the renal to the portal vein in the dog. When suture of the vein is impracticable, light compression ought always to be resorted to before the ligature is applied to the vein, especially when both vessels are injured. In healthy subjects with a normal circulatory system, however, it does not appear that ligature of the common femoral vein alone is a very dangerous proceeding.

ANOTHER HITHERTO UNDESCRIBED DISEASE OF THE OVARIES.

ANOMALOUS MENSTRUAL BODIES.

By MARY A. DIXON JONES, M. D.,
BROOKLYN.

In an article of mine, published in the American Journal of Obstetrics, February, 1888, I quote from a letter I received from Dr. Paul F. Mundé, in which he says: "I beg to acknowledge the receipt of your very excellent article on Tait's operation. It seems to me that the indications in Tait's operation are quite different from those for Battey's, when the disease of the uterine appendages is but problematical, before and after the operation, which is performed for merely reflex neurotic conditions."

I quote from Sir Spencer Wells: "Oophorectomy or the removal of normal ovaries. I accept," said Sir Spencer, "the principle, but its introduction in mental and neurotic cases is only to be thought of after long trials of other tentative measures and the deliberate sanction of experienced practitioners."

I remark in the same paper: "I shudder at the thought of removing 'normal ovaries,' or when the disease is 'problematical.' I would not remove normal ovaries for dysmenorrhœa or for any suffering in the region of the ovaries. I would not remove them for mental or neurotic disease, even if I had failed 'after long trials of other tentative measures, and had the cordial, full, and deliberate sanction of experienced practitioners,' unless I believed the appendages were diseased."

I add further in the same article: "I have never operated on a case, but I had full and substantial reasons to diagnosticate incurable disease of the uterine appendages."

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[*] Quain's Anatomy, vol. i.

[†] Henle, Gefässlehre.

[‡] Braune, *l. c.*, p. 10.

[#] Pilcher, N. Y. Med. Jour., 1886, xliii.

[‖] Kraske, Centralblatt für Chirurgie, 1880, No. 43.

[*] Maubrac, Archives générales de médecine, 1889.

[†] Schede, Archiv für klinische Chirurgie, vol. xxviii, p. 671.

[‡] Lange, New York Med. Journal, vol. xliv, p. 720.

[#] V. Koretzky, *loc. cit.*

Dr. T. A. Emmet says in the Medical Record of December 28, 1889: "From the beginning I have been uncompromising in my opposition to the removal of the ovaries for dysmenorrhœa and other nervous disorders, due to perverted or impaired nutrition, and where the fault lies in the nerve centers."

Thus it will be seen that the position which I assumed from the first, and published nearly two years before the appearance of Dr. Emmet's article, is more conservative than is Dr. Emmet's position. He objects to the "removal of ovaries for dysmenorrhœa and other nervous disorders due to perverted or impaired nutrition, and where the fault lies in the nerve centers." I make the "uncompromising" sweep of excluding all cases from this operation except where there is hopeless disease of the organs themselves. That is, I denounce the removal of the uterine appendages for any cause, neurotic condition, constitutional disturbance, or for any reason except for incurable disease of the organs themselves. When thus hopelessly diseased they are a continual injury to the system, and their removal is a lasting benefit. I would not advise an operation in all cases, even where the uterine appendages are found to be hopelessly diseased, yet, as Dr. Emmet says, "it is an operation I never hesitate to perform when I think it is indicated"; * and, I will add, clearly for the welfare of the patient. No doubt other surgeons as carefully consider each case, and in like manner exercise their best judgment.

This operation is advised by many for bleeding myoma. In bleeding myoma, or in any case of fibroid tumor of the uterus, I believe the uterine appendages will invariably be found to be diseased, so all such cases might come under the head of incurable disease of the organs. This operation might also be suggested as desirable in case of a deformed or very contracted pelvis; but to remove healthy organs for any "grave" condition of the general system should not be thought of, and can not under any circumstances eventuate in any good, for the normal action and physiological function of healthy organs will always assist in restoring the system, in whatever way diseased, to a state of health.

Yet there must be cases of serious reflex neurosis that demand attention when so eminent and distinguished an authority as Professor T. G. Thomas cites instances. Of one case he says: "The insanity was confined to the period of ovulation, and after the removal of the uterine appendages the menstrual insanity was entirely relieved." A case of the same kind is reported by Dr. R. Stansbury Sutton, of Pittsburgh. He says: "After operation the patient's insanity soon disappeared and she remains free from mental disease and nervousness." Still there is no doubt that in all such cases a microscopical examination would show the uterine appendages to be diseased, and that this disease is the cause of the reflex irritation or neurotic conditions. Probably it may yet be demonstrated that these neurotic conditions are caused by anomalous menstrual bodies, and that operations in these cases are really for the removal of anomalous menstrual bodies, which are as much an abnormal growth as a tumor in any other part of the body.

The first operation I ever performed for the removal of diseased uterine appendages took place on May 12, 1883. The patient consulted me in October, 1882. She was then a mental and physical wreck; twice married and was never pregnant; had been for years under medical treatment, and was constantly growing worse. There were the most pronounced symptoms of ovarian and tubal disease; a large mass was on each side of the uterus, which was extremely sensitive, adherent, and bound in by adhesions. These conditions gave her constant and severe distress. Menstruation was accompanied by a delirium of pain and by repeated attacks of hystero-epilepsy. So great had been her sufferings that she had become a complete slave to the morphine habit. Her whole skin was apparently riddled by the hypodermic needle.

I continued her under treatment for a long time, hoping to remove the disease or alleviate her sufferings. She made no improvement. In no respect was she any better. In searching for a way to relieve this sick woman, this operation suggested itself to my mind. It was a revelation, a new thought, and the conclusion gradually forced itself upon me that this was the one thing to do for her, and the only way to relieve her sufferings or prolong her life. I requested Professor B. F. Dawson, of the New York State Woman's Hospital, to see the patient. He fully agreed with me as to the necessity of an operation, and advised that it be performed. Still I hesitated, I put it off, and put it off repeatedly; all the while the patient and friends were urging the operation. It finally took place on May 12, 1883; Professor Dawson kindly assisted and performed part of the operation. I was also assisted by two of the most eminent physicians and surgeons of Brooklyn—Dr. J. H. H. Burge and Dr. F. W. Rockwell—and by Dr. C. N. D. Jones.*

Even in such a case as this, with such profound neurotic conditions, with her extreme nervousness, the local pain, the hystero-epilepsy, and the periodical mania, I would not have removed the uterine appendages unless I had had reason to know that they were hopelessly diseased. The microscopical examination then made gave the diagnosis "oophoritis and pyosalpinx (interstitial)." Since knowing something of anomalous menstrual bodies, and remembering the clinical history, I was certain that they existed in this case, so, recently, I examined again the same microscopical slides and found there were large anomalous menstrual bodies in a state of intense inflammation, and in the midst of ovarian stroma equally inflamed. This was the disease that was destroying the woman's mental and physical life. Their presence explained the intense oophoritis and her peculiar nerve manifestations.

In every instance, in removing diseased structures or any kind of tumor by abdominal section, I have been interested and determined to know the exact pathological conditions, and thereby find out the cause of suffering and the nature of the disease. So I have pursued sedulously the microscopical study of every case, and these investigations have fully repaid me, not only in the wonderful and beautiful facts they have revealed, but by having enabled me the more intelligently to help suffering women.

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* I understand that Dr. Emmet performed the operation the day after writing the article.

* This case was reported by Professor Dawson to the New York Obstetrical Society, and a written report by myself was published in the American Journal of Obstetrics, November, 1884.

In 1886, when I was studying the diseased structures of a case I had operated on in June, 1885, I first saw the peculiar form of degeneration which I described as endothelioma or alveolar sarcoma in the Medical Record for August 21, 1886, and as endothelioma in the New York Medical Journal for September 28, 1889. This growth is a profuse new formation of red blood-corpuscles and blood-vessels, mainly of capillary and venous nature, and at last terminating in what we know to be a hæmatoma of the ovary. This formation does not bulge over the surface of the ovary in a pronounced manner, though it often approaches the surface. It is sharply defined to the naked eye by a peculiar bloody color, and in a few instances it has been found separated from the adjacent ovarian tissue by a layer of delicate loose connective tissue, admitting its enucleation.

In the last paper I stated that endothelioma took origin in anomalous menstrual bodies, both in the follicular wall and in the myxomatous tissue within the wall. I also stated the possibility that tortuous arteries, having become solidified and changed in fibrous connective tissue, in waxy degeneration, may likewise be a source of endothelioma.

Anomalous menstrual bodies are peculiar morbid changes, frequently present in women who have never borne children, and are invariably accompanied by pronounced bodily and mental suffering and usually by an incurable sterility. The word cirsoma has been proposed to designate endothelioma changing to angeioma and hæmatoma. This word, however, meaning dilated and convoluted veins, is probably less appropriate for the designation of the morbid process under consideration than the word gyroma, which means a convoluted mass, and more accurately designates what I propose to describe. I therefore beg to submit the term gyroma for the title of the subject under consideration—namely, anomalous menstrual bodies.

In November, 1888, while studying the pathological specimens removed from a patient for whom I had performed an operation in October, 1888, I saw for the first time these apparently fibromatous formations which I now know to be anomalous menstrual bodies, and which I wish to designate "gyroma." This case was reported to the New York Pathological Society on December 12, 1888, and the following statement was made: "The right ovary was much enlarged, and most of it was occupied by a fibroid growth or tumor, while in other portions of the ovary there were a number of small nodular fibromata, in the neighborhood of which the blood-vessels were much enlarged, probably by pressure."

Subsequent investigations have shown that what I then denominated "nodular fibromata" are anomalous menstrual bodies, or gyroma. (See Fig. 5, C, C.) It is a singular fact that gyroma is found in all cases where there is endothelioma, and that it is a frequent source of endothelioma, though it (gyroma) exists in many instances where there is not a trace of endothelioma. Both gyroma and endothelioma are the result of inflammation and produce inflammation. Both are not only always found accompanied by oophoritis, acute or subacute, but also are frequently accompanied by diseased and obstructed blood-vessels and by a diseased condition of the ova.

The clinical features of endothelioma are local pain, weakness, pallor, and progressive emaciation. The clinical features of gyroma are local pain, general exhaustion, and a most pronounced nervous and hysterical condition, with more or less mental disturbance. So characteristic are the nerve symptoms that, after studying gyroma and differentiating it as a distinct disease, I could go to my museum of pathological specimens and select at will a case of gyroma from these known clinical features.

The subject of normal and anomalous menstrual bodies is an almost unexplored field. It presents points not only of great scientific interest, but of momentous importance. It reveals the cause of the exhausting and untold suffering, which many women endure year by year, which renders their lives useless and which incapacitates them for life's active labors, developing other and more serious troubles, and finally carrying many to an early grave.

The normal remains of menstruation is a delicately corrugated formation or convoluted structureless membrane, of a highly refractive character, thrown into graceful folds and imbedded in the ovarian stroma (see Fig. 2, O), and of itself could not possibly be a source of irritation or of the least disturbance in any way. This formation, convoluted or structureless membrane, from some cause sometimes becomes the seat of abnormal action, which is soon followed by grave pathological changes. First an inflammation commences in one part; other portions may as yet be entirely unchanged. This inflammation spreads, increases, and gradually invades all the convoluted formation. The whole of it becomes crowded with inflammatory corpuscles; the membrane grows thicker; the inflammatory corpuscles change to extremely dense fibrous connective tissue; then is deposited a waxy colloid basis substance, and thus the structureless membrane or the follicular wall becomes thicker and firmer till there is formed a broad, firm, convoluted wall, or, still progressing, there will be developed apparently a great nodular fibroma. (See Fig. 4, C, C, and Fig. 15, F.)

A similar inflammation excites like changes in other structureless membranes or follicles. Frequently in one portion of the ovary we find near together one, two, three, five, or six anomalous menstrual bodies, each in a state of active inflammation and surrounded by tissue equally diseased; indeed, between them there will be found no normal tissue, showing how the whole ovary may become entirely diseased and all normal structure destroyed by the presence of these bodies. An ovarian cyst is frequently seen in the midst of these anomalous menstrual bodies, the walls of which will invariably be found to be inflamed, and near by will be seen also the diseased blood-vessels, diseased ova, and the progressively changing ovarian tissue. Such pathological changes progress and increase till the whole ovary is abnormal and becomes the seat and source of intense suffering and of serious reflex neurosis.

Such formations as these would seem sufficient, by pressing upon the delicate ovarian stroma, to excite the most serious inflammation. But in every instance where this pathological change has been seen commencing in the follicle there was found an already existing inflammation in the ovarian tissue; and no doubt it was this previous inflammation which excited the abnormal action in the follicular wall. In every instance when I have seen anomalous menstrual bodies I have always found them surrounded by or in the midst of inflammatory reaction. Often when a little portion of a neighboring anomalous menstrual body is taken off by a razor it is found to be thickened, inflamed, and changed, and always imbedded in inflamed ovarian tissue. Sometimes the anomalous menstrual body or gyroma will be found stretched out at great length between the medulla and the cortex, with waxy walls and myxomatous tissue within, but always round it will be found the spreading zone of intense inflammation.

Sometimes the anomalous menstrual bodies are apparently rough, nodular masses; still around them is the ever-accompanying inflammation. In some instances the masses will be found to be waxy or changed into endothelioma; still there will be seen the surrounding inflammation, acute or subacute. Sometimes the pathological changes in the follicular membrane, which apparently is so inoffensive, begin by graceful little folds being wedged apart by a new formation of myxomatous tissue. The myxomatous tissue increases, the folds are widened and pushed farther apart, till there is a great field of myxomatous tissue and the delicate membrane is being transformed into a rough, convoluted wall surrounding this field. This was especially seen in the ovaries of Case IX.

In many instances the myxomatous tissue within the walls shows the highest degree of inflammation, new arteries and veins are being formed, and, what is more curious, the inflamed myxomatous tissue seems to stretch beyond the walls of the follicle and apparently transforms large portions of the ovary into its own structure, which structure shows the same inflammatory action and the same new formation of blood-vessels and capillaries. This was seen in a patient who had a large orange-sized blood-cyst of the ovary. It was interesting to watch how the capillaries were formed from the tracts of myxomatous tissue through vacuolization of the solid cords.

The walls which surround this myxomatous tissue gradually grow wider, the tissue within gradually becoming less and less, till there is a mere trace, and finally the whole disappears and the space is taken up by the encroaching walls and there is formed one solid, rough mass, such as I first denominated "nodular fibromata" and now call gyroma.

Such changes of structure and new formations of morbid tissue must give rise to local trouble and to great constitutional disturbances. If anything would cause cancer of the ovary, the continual irritation of these nodular masses would seem to be sufficient, for continued irritation produces such inflammatory reaction that almost every structure of the ovary undergoes some abnormal change. Even the blood-vessels are so altered that they lose their muscular coat, become fibrous or waxy; the walls are enormously thickened, and their calibers are reduced to the size of a pin's point or entirely disappear. Such abnormal changes in the blood-vessels alone would produce great anatomical and physiological changes in the structure of the ovaries and disturb to the same extent the general health and constitution of the individual.

Case I.—Patient consulted me in August, 1888. She was forty years of age, feeble, emaciated, cachectic, and very hysterical, suffering with "constant pain in the pelvis." Ten years previously she had seen an eminent specialist in Philadelphia, who diagnosticated "inflammation of the ovaries." The disease had continued to increase, had exhausted the patient's vitality, and had produced serious nerve complications. On examination, I found great tenderness and soreness in the pelvis, the ovaries enlarged and in a state of chronic inflammation, the uterus fixed on the right side by shortening of the right broad ligament. I put her under treatment, using the well-known and recognized remedies and procedures; still the patient was sick and the ovarian disease was increasing. I was convinced that nothing would relieve her or restore her to health but removal of the diseased structures. The operation was performed in October, 1888. Soon after the patient showed greatly improved conditions, gaining in general health and strength. In a few weeks she was in a better state of health and freer from distress than she had been for years.

Microscopical examination* of the ovary showed several forms of degeneration. Much of the ovarian structure was broken down into endothelioma; there were found calcified globular deposits of lime salts, and between the angular protoplasmic bodies were bone corpuscles. Besides, there were structural changes as the result of oophoritis; the blood-vessels were in a state of endarteritis obliterans, with waxy degeneration; there was kirsoid aneurysm of the arteries (see Fig. 8); the ova were in retrograde process, many of them breaking up into medullary corpuscles, and, finally, much of the ovary was changed to gyroma.

The Falloppian tubes were in a state of atrophy from chronic salpingitis.

This patient had originally a good constitution, having been a remarkably healthy woman, and was the mother of eight children. Several of her confinements had been followed by mild attacks of septicæmia, and at one the septicæmia had induced a severe peritoneal inflammation. This had caused or increased the disease of the ovaries and tubes, and perhaps had also caused the gyromatous formations, which had further increased the oophoritis, and had thus not only destroyed her health and comfort, but had induced in a woman otherwise so prolific an incurable sterility.

Around and with a parturient woman there should be as aseptic conditions as for an operation. I have sometimes thought that an obstetrician should be an antiseptic surgeon, for at that time, in an untold number of instances, are induced those conditions which not only make a woman a life-long sufferer, but make her sterile for life. Frequently in taking the medical history of a patient we find that she had probably one or two children in early married life and none since. As a patient said to me: "I had one child ten months after marriage, and the seven years since have been years of sickness and misery." Here was a woman of good constitution, capable of being the mother of half a dozen or more children and still have good health, instead of which now, at the age of twenty-six, she is an invalid, "*et une femme stérile*," all from sepsis at confinement.

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* The microscopical studies in all the cases were conducted in Dr. Charles Heitzman's laboratory.

There are many such women. Some pass to an early grave, a few are relieved and restored to health by an operation. Then we are told the woman had been "unsexed" and made "sterile." This is in no respect true. Disease had already made the woman sterile and had as much destroyed her capability of bearing children as if the organs did not exist. Removing the diseased organs does not unsex a woman. If so, disease may unsex a woman. Are we to say a woman is unsexed because she is physically unable to bear children? I said in an article published in the Medical Record, August, 1886: "Removing diseased uterine appendages is *only removing a cause of suffering* and restoring a woman from invalidism to the possibilities of life and labor."

CASE II.—A young woman, twenty-six years old, the mother of three children, consulted me in 1887; said she suffered with almost constant pain in the back and most intense pain in the pelvis, especially on the left side—so severe "she could not attend to her work, had an indisposition for any kind of exertion, and the marital relations gave her terrible pain." For months she had been under the treatment of excellent physicians; one proposed aspirating her on the left side, etc. From all the excellent treatment she had experienced no benefit. Besides minor troubles, the ovaries were found to be enlarged, extremely sensitive, and gave indications of certain structural changes. I was convinced that the only way to restore her to health was the removal of the structurally diseased organs, and I so informed the patient; also told her she was incapable of bearing children, with or without an operation. She desired to have the operation; she made an excellent recovery, and afterward frequently expressed herself as to how improved were her conditions.

Macroscopical Appearance.—Ovaries of three or four times their normal size. Over the whole surface of both were prominences of about the size of a pea, having the appearance of cysts, but they were not. On section, the right ovary showed one large cyst occupying one half of the cut surface of the ovary. The left ovary showed the same condition. Both tubes were full of blood.

Microscopical Examination.—In each ovary there was a large endotheliomatous growth, and around it the tissues were in a state of subacute oophoritis. There were many large anomalous menstrual bodies, the thick walls of which were in a high degree of inflammation; even the myxomatous tissue within the walls was inflamed, filled with inflammatory corpuscles, and in many there was a new formation of blood-vessels. The few cysts were surrounded by layer after layer of inflammatory tissue, showing different stages or repeated attacks of inflammation. The walls of the blood-vessels were enormously thickened, some in waxy degeneration and others so changed to fibrous connective tissue that there was scarce a trace of muscle fiber left. Even the endothelia of the blood-vessels were changed to fibrous connective tissue. The ova showed the usual retrograde condition, breaking up into medullary corpuscles. The Falloppian tubes were in a state of interstitial salpingitis. There were false membranes around them from old peritoneal adhesions.

No doubt the commencement of this woman's suffering and the cause of her trouble was puerperal sepsis at her last confinement.

CASE III.—A slight, feeble, emaciated woman, thirty-one years of age, weight sixty or seventy pounds, worn out with suffering, and complaining of constant pain in the pelvis. The uterine appendages were enlarged, low down in Douglas's *cul-de-sac*, and so exceedingly sensitive that the slightest touch gave distress, and severe pressure caused fainting and convulsions. The patient said she had constant soreness and sharp shooting pains; that she could not stand up, could not sit squarely on her chair; that locomotion and defecation were both painful, and the sufferings at the menstrual period were most extreme, the pain commencing ten days before, leaving the patient perfectly exhausted. Besides this, menstruation was frequently accompanied by attacks of hystero-epilepsy.

Before marriage this woman had never had a day's sickness or an hour's pain at the menstrual period. After marriage, in quick succession she had three children; the youngest at this time was seven years of age; and from the birth of this child her sufferings commenced. I am firmly convinced that at that time commenced the gyroma, or the formation of anomalous menstrual bodies, which resulted from septic inflammation, and in turn excited renewed inflammation. The gyroma, with the increasing inflammation, caused the enlargement, the subsequent misplacement, and thus these complications, reacting upon each other, rendered the patient's conditions more and more deplorable.

When she came to me she had had much medical treatment, and I tried further its efficacy, but soon saw that nothing could cure these organs; no instrument could hold them in position; nothing would relieve the woman but an operation. She and her husband both insisted upon its being performed. She recovered without a bad symptom; in three weeks had convalesced sufficiently to leave the hospital, and since has been able to attend to her family and to her household duties. She wrote in April, 1889: "I am now well, can walk five miles on a stretch, and am able to do my work for nine in the family."

In my description of the removed ovaries I said they were "large, hard, and nodular." The microscopical examination showed the same characteristics as in the preceding cases—viz., gyroma, intense inflammation, diseased blood-vessels, etc. A very remarkable feature was that many of the ova were in a state of waxy degeneration, and in some places the whole Graafian follicle was reduced to a large waxy mass, containing colloid corpuscles in concentric layers.

CASE IV.—Twenty-seven years of age, six years married, no children. Her whole married life had been a period of invalidism; even during the early menstrual period she gave indications of ovarian trouble, which continued year by year, increasing till the named organs were the seat of almost constant pain, at times of intense agony, the patient not being able to do anything, and her life rendered utterly useless. This severe and continued suffering was wearing her out mentally and physically. During one of her "attacks of inflammation of the uterus" twenty-four blisters were applied to the abdomen, and at the end of four months she said she "was not able to walk across the room." Another time, after being sick and confined to her bed a year, she attempted to walk half a block, and said she "was a week recovering from it." No doubt these "attacks" were attacks of inflammation of the ovaries and local peritonitis.

The patient was becoming more and more an invalid. From examination, the uterus was found in extreme retroversion, held down by enlarged and diseased ovaries, which were extremely sensitive, the slightest touch giving pain and producing nausea, and any force sufficient to replace the uterus or the ovaries would have produced extreme distress and suffering. It was a question: Diseased ovaries or years of usefulness, a surgical operation or continued suffering? The ovaries were removed and the patient made a good recovery, and since her health has been gradually improving.

The ovaries of this patient were five or six times their normal size, surface slightly lobated, and microscopical examination showed that they were, in a most remarkable manner, filled with gyroma. The gyroma appeared in the form of immense convolutions, three times the diameter of those represented in Fig. 4, and by their winding and turning they filled large portions of each ovary. These convolutions were made up of dense fibrous connective tissue, whose bundles were arranged in a markedly radiating direction, in some places in hyaline degeneration. A highly prominent feature is the presence of several ducts of Pfluger, both in transverse and longitudinal direction, lined with the characteristic columnar epithelia, and holding in their cavities coagulated albumin. The arteries in the medullary portion were tortuous in the highest degree, and exhibited, without exception, waxy degeneration in the middle coats. The cysts were surrounded by a zone of inflammatory corpuscles, and from their walls branching papillary vegetation bulged into the cavity of the cysts. Some of the ova were broken up into medullary corpuscles; between the gyroma there were spaces of myxomatous tissue as represented in Fig. 6. Is it any wonder that ovaries whose normal structure was so destroyed should be the seat of suffering and fail in performing their physiological functions, and that the woman should be sterile and an invalid?

The gyroma was not only a source of suffering, but a cause of continually increasing disease. They had already seriously injured her nervous organization, were working still more destruction, and I believe, finally, would have sent her to the insane asylum.

Sections carried through the fimbriated extremity of the tube showed the presence of false membranes from old peritonitis.

Case V.—A woman who gave her age as thirty-nine, married some years, without children, says that for years she has had "pain in the region of the ovaries and in her back; constantly such a distress that she could not do her household work." Upon microscopical examination, both ovaries were found to be filled with gyroma, which had displaced almost entirely all the normal structures of the ovary. Fig. 4 is a representation of the growth in the ovaries of this woman. The portion of ovarian structure that remained was in a state of intense acute oophoritis. From the pressure of this growth the blood-vessels had become tortuous and more or less obstructed. The walls of many of them were in a state of waxy degeneration. In many instances blood was found in the arteries, which could only result from a complete obstruction in some portion. Many of the large fibromatous formations were breaking down into endothelioma.

Case VI.—One day a patient came to my clinic. Nine years she had suffered pain, sometimes agonizing; nine years she had been married and had no children. She had the same cachectic look, the same constitutional disturbance, the same inability for any kind of continued labor or employment. Her case was complicated with long-standing pyosalpinx, in consequence of which the diseased structures were buried in a mass of dense adhesions; also by these they were bound firmly to the floor of the pelvis, and in some portions to the alimentary canal, involving the appendix vermiformis. The operation was one of great difficulty. The ovaries were found in a state of subacute oophoritis, and contained many anomalous menstrual bodies, some of them waxy, some were breaking down into endothelioma, and many were surrounded by firm layers of secondary fibrous connective tissue, which could have resulted only from long-existing and repeated attacks of inflammation. All the blood-vessels and the ova were found diseased. These conditions explained the cause of the patient's intense suffering and of her sterility.

(*To be concluded.*)

THE CÆSAREAN OPERATION.

A SUCCESSFUL CASE.

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As the perpetuation of the species has in all time been a matter of paramount importance, the Cæsarean section as the great *dernier ressort* in insurmountable dystocia has doubtless held a place as one of the resources of the obstetric art from time immemorial.

It is true that history, with its rigid censorship of authenticity, carries the operation on the living subject no farther back than the fifteenth century, but it is equally true that tradition and mythology, those shadows of truth, by intimation at least bear it and us far beyond into the mists of antiquity. That it has always been a theme of absorbing interest is evidenced by the fact that it has been woven into legend and song, while extraordinary, ofttimes supernatural, attributes were ascribed to children so delivered. It has been alternately enforced and proscribed by law, has been upheld by the Church and denounced by the profession, and in some quarters of the globe had until recently fallen into desuetude. Always, until within the last decade, an empirical measure, it has been done in a perfunctory and haphazard way, and the results have been altogether fortuitous. As a consequence, the mortality has been appalling, and when we consider from our standpoint the flagrant neglect of the most essential rules of practice, we are prepared to indorse the dictum of Mauriceau when he says: "If it is true that any women have escaped, it was the work of a miracle . . . rather than by any effect of human prudence." The three factors of failure in the past were hæmorrhage, septicæmia, and gaping wounds. With the recent advances in abdominal surgery and the special researches of Sänger, the tripod of success consists of perfect hæmostasis, absolute cleanliness, and accurate apposition of divided surfaces. Other points that have not been so definitely settled, some of which doubtless exercise a controlling influence on the result, are the period of gestation, absence or presence of labor, the length of time it has continued, and the condition of the patient. Of the latter we do not always have control, but for the former we are strictly responsible, and in proportion to their observance do we realize measure for measure of success. With the advent of a new technique came great expectations. Interest grew with expectation, and when at length a series of brilliant successes crowned initial effort, the medical world was startled into seemly and pertinent activity. The Cæsarean section, long under ban, now became a legitimate resource, based upon scientific principles. Its sphere was enlarged, the indications for its use were multiplied, and throughout the civilized world the question of substituting it for craniotomy was earnestly discussed. Everything pertaining to the operation, every contingency supposed to have a bearing on its results, immediate or remote, have been and now are submitted to the crucible of thought and experiment, while statistics are eagerly compiled and compared with a view of placing the operation on a basis of scientific exactitude. In this connection the following case, recently occurring in my practice, will be found not devoid of interest:

Mrs. C. F. T., of this city, aged thirty-three, one child three years old, consulted me some time in October, 1889, for pelvic pains, inability to walk, difficult movements of all kinds, and cramps in the toes. On examination, I found a mass occupying the pelvis, continuous with the cervix and presumably the uterus, of the size, contour, and consistence of pregnancy at the third month.

Menstruation had been absent for two periods. I saw her a few times, when she went to the country, remaining several weeks. On her return I found a balloon-shaped mass in the right hypogastrium connected with the first named but not traceable to the cervix, the supposed uterus intervening between it and the vaginal vault. The cervix was crowded far to the right and drawn upward and backward so as to be reached with difficulty. Repeated examinations failed to enlighten me as to the nature of this growth, and Dr. J. W. McMillen was called in council. In my previous examinations it appeared to be distinctly cystic, with tense walls. Now, however, it was much less distinctly circumscribed and appeared solid. As no conclusion could be reached, we decided to await developments.

My first impression was that it was an ovarian cyst, or possibly an extra-uterine pregnancy. After the fourth month symptoms abated to a considerable extent, and I saw her only at long intervals. Eventually motion was felt and referred to the balloon-shaped mass on the right. This I was slow to believe, thinking that the motion was communicated by contiguity and recognized by the more sentient parts of the lumbar region. Examination corroborated the patient's belief and revealed, with almost startling distinctness, the outlines of the fœtus occupying a thin-walled cyst, which, however, contracted and relaxed at intervals. Meantime the hitherto supposed uterus had grown apace and was now of about the size it should have been at this period of gestation. It had the consistence of a pregnant uterus, but seemed to be thick-walled and no fœtus could be detected in it. *It had periods of contraction and relaxation coincident with those of the uterus proper.* I made repeated and strenuous efforts to trace a continuity between the cervix and the gestation sac, but always failed, the cervix seeming to run over into this pelvic growth. I was now halting between three opinions: Pregnancy in the broad ligament, pregnancy in one horn of the uterus, or normal pregnancy with intraligamentary growth of the left side. The great elevation of the cervix and its lateral position inclined me to the ligament theory, whereas the lateral position of the fœtus and the rhythmical contractions of the pelvic mass suggested cornual pregnancy. In this dilemma I refrained from expressing an opinion, and left word to be called in the event of any unusual manifestations.

On Tuesday, February 4th, at 2 A. M., I received a telephone message from Dr. T., saying his wife was in labor. I found such to be the case, and called Dr. Loving and Dr. Hoover. These gentlemen agreed that it was probably a case of extra-uterine pregnancy; but, as the patient was suffering from a severe attack of "la grippe," it was decided to give opiates in the hope of arresting uterine contractions, failing which the operation was to be done before nightfall. The pains abated but did not cease, and accordingly, at 3 P. M., hastily calling to my aid Dr. Baldwin, Dr. Agler, Dr. E. F. Clark, and Dr. E. M. Gilliam, we repaired to the house. Some time was consumed in making the necessary preparations, with due regard to asepsis, and it was not until after 4 P. M. that the patient, being chloroformed, was laid on the table, catheterized, and the abdomen washed with ether. An incision was now made extending from two inches above the symphisis pubis to one inch above the umbilicus. The peritoneal cavity being reached, a strange complexus met our eyes. The uterus lay entirely to the right side, the mass on the left filling the pelvis and extending into the hypogastrium. A distinct sulcus ran diagonally upward and to the left, indicating the line of union between the uterus and the growth. The growth was somewhat darker than the uterus. It was of about the density, toughness, and elasticity of the relaxed uterus A moment's pause was made, and then it was decided to perform Cæsarean section, inasmuch as the growth would effectually preclude birth *per vias naturales.* A rubber tube being cast around the uterus as low down as the growth would allow it to go, an incision was made into the uterus four or five inches long, through which the fœtus, placenta, and membranes were extracted. These were handed to Dr. Agler, and by him transferred to the nurse. The fœtus was a female of six months and a half, vigorous, and cried lustily. Dr. Baldwin now, with a finger in the vagina and another through the cut in the uterus, made them meet, and traced the continuity of cervix and body of the uterus, which could not be done before. The uterus was now sponged out, and eight to ten deep and an equal number of superficial sutures were introduced. The deep sutures were entered half an inch from the edge of the incision, and passed slantingly so as not to include the decidua. The peritoneal covering was so firmly attached as to prevent infolding, but accurate approximation of the edges was secured by closely set sutures. Silk was used for both deep and superficial sutures. One spurting artery in the walls of the uterus was secured by a ligature. The loss of blood was not large. The abdomen was now thoroughly irrigated with hot water that had been boiled, and, after sponging, closed by deep and superficial sutures, a large glass drainage-tube being placed behind the uterus. Owing to the pelvic blockade, the drainage-tube had to be introduced through the upper angle of the abdominal wound, and could not be made to settle well in place. The patient was put to bed in good condition, but with a pulse of 125. The child lived until 11 P. M., its death probably being hastened by inattention, as I found it after the operation lying in a cold room, lightly covered, whimpering, and benumbed from exposure. The patient, previous to the operation, had been having spasms of the respiratory muscles and spells of suffocation. These followed each other in rapid succession during the night, in the throes of which it was with the greatest difficulty she could keep from springing out of bed. These paroxysms were fearful to witness, and gave rise to the gravest apprehensions. Nothing in the way of nerve stimulants or sedatives seemed to have any influence over them. Gradually and by degrees they subsided after many days. I can not say convalescence was uneventful, though the pulse fluctuated between 62 and 93, continuing for the most part at about 80, and the temperature between 97·5° and 101° F. On the second day she complained much of after-pains, and also began to vomit bilious matter. This vomiting continued several days, and on the fourth day was accompanied by much abdominal pain, difficulty in breathing on account of stabbing pains, and abdominal distension. The abdomen had been irrigated regularly, though but little had come away, and broken doses of salts had been given at regular intervals without effect. Upon examination, I found the tube partially extruded and turned around so as to be resting against the diaphragm. I removed it and the stabbing pains ceased. In due time the bowels moved, the vomiting ceased, the tympanites subsided, and thereafter she progressed, with occasional hitches and turns, until on the tenth day she experienced a chill. These chills recurred two days in succession, when they subsided, and from that date convalescence was uninterrupted. On the nineteenth day the patient was allowed to get up, since which time she has been growing in strength and in the use of herself. The pelvic growth for a while participated in the general movements of involution, so as to become reduced to about one half its former size, but is now developing again. Of its nature I am unable to form an opinion.

I should state that throughout the entire conduct of the case I had the valuable assistance of Dr. T., the patient's husband.

THREE CASES OF PULMONARY TUBERCULOSIS IN YOUNG INFANTS;

WITH A REPORT UPON THE DISTRIBUTION OF THE LESIONS IN TWENTY CASES OF INFANTILE TUBERCULOSIS.*

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Case I. *Acute Pulmonary Tuberculosis with a Small Cavity.*—The patient was a child, five months old, with a history of phthisis in the mother's family, and died after an acute illness of one month. The onset was with fever, cough, and prostration, and the general symptoms indicated broncho-pneumonia. These were first fine râles, then broncho-vesicular breathing, and finally the signs of complete consolidation over the right lung posteriorly, with the evidences of general bronchitis throughout the chest. The temperature ranged from 100° to 104° F.; there was increasing prostration and emaciation, and death from exhaustion.

At the autopsy the surface of the right lung was found covered with recent fibrin and studded with miliary tubercles. The lower two thirds of the upper lobe contained a cavity, of the size of an almond, communicating with several smaller cavities, and all filled with a very offensive pus. The posterior three quarters of lower lobe were consolidated, and pus in abundance in bronchi. Left lung showed scattering tubercles on surface and on section; hypostatic pneumonia involves posterior half of lung. Bronchial glands enlarged and cheesy. No tubercles found in any other organs. [Specimens from this and the two following cases were exhibited to the Section.]

Case II. *Persistent Broncho-pneumonia with Tuberculosis of the Bronchial Glands, followed by General Miliary Tuberculosis and Death from Tubercular Meningitis.*—The patient was a child, two years old, whose mother died of phthisis. Six months before death the child had entero-colitis, followed by broncho-pneumonia with pleurisy. The lungs had never resolved entirely, and signs of consolidation in both lungs posteriorly remained. There was after this an occasional rise of temperature, and a teasing cough persisted.

Two months before death an exacerbation occurred in all the symptoms, with fever, and accompanied by an extension of the signs in the chest. From this time there were present progressive emaciation, continuous fever, the temperature ranging from 99° to 104°.

Eight days before death well-marked symptoms of meningitis developed, and with these the child died. The autopsy showed moderate tubercular meningitis, a few tubercles in the spleen, but none were found in any other organs except the lungs.

There were firm and very extensive old adhesions of both lungs to chest wall and to diaphragm; extensive areas of chronic broncho-pneumonia through both lungs; bronchial glands very much enlarged, cheesy, and some completely broken down, and recent miliary tubercles widely scattered through the lungs.

Case III. *Pulmonary Tuberculosis with Latent Symptoms.*—The infant was one year old, always delicate, but up to four days before death it had presented only the symptoms of athrepsia. It then became very much prostrated and refused food, coughed a little; did not have any higher temperature than 99° F., and died of exhaustion.

At the autopsy both lungs were found to be pretty thickly studded with small cheesy nodules about as large as a pea, and in the anterior border of the left lung there was a cavity as large as an English walnut.

The three foregoing cases occurred in the service of Dr. Robert Milbank, visiting physician.

In twenty autopsies upon cases of infantile tuberculosis at the Infant Asylum made, with two exceptions, during the last two years, the following distribution of lesions was found: In seventeen there was a fairly even distribution of tubercle on surface and in substance of the lung. In one the tubercles were confined to the left lower lobe, in another very few tubercles were found, and in the remaining case the lung was free. There was tuberculosis of the lung in every case but one, of the lung only in two. The majority of our text-books, in treating of tuberculosis in children, either mention the infrequency of cavity in pulmonary tuberculosis, or do not refer to it at all. In twelve of the twenty cases we found cavities in the lungs, the cavities varying in size from a hazel-nut to an English walnut. In five of the remaining eight there were cheesy nodules, some of which were beginning to break down.

The cavities were located at the apex in one case, in the lower portion of the upper lobes in three, in the right middle in one, and in the lower lobes in seven; in two of the latter the middle lobe of right also contained cavities. The left lung contained the cavities in seven, the right in five. The organs were involved in the following order of frequency: Lungs, nineteen; spleen, fifteen; brain, eleven; liver, nine; intestines, ten; kidneys, three; peritonæum, one; and pericardium, one. In the spleen, liver, and kidney, as a rule, there were but few tubercles, and these mostly on the surface. The spleen was enlarged in five cases, in one it was three, and in another five times the normal size. The liver was pale and fatty in seven. The bronchial glands were enlarged in every case. Enlarged and cheesy in eleven. The condition of the mesenteric glands was noted in fifteen cases; they were enlarged in every case, and in six cheesy and broken down. A positive tubercular history in three only.

Correspondence.

LETTER FROM PARIS.

A Students' Demonstration against an Unpopular Professor.—Cause of his Unpopularity.—The Death of Professor Trélat.—Sketch of his Labors.

Paris, *April 14, 1890.*

One of the tragi-comical incidents so well known by the Parisians that they no longer attract their attention marked the beginning of the second semester at the medical school. On the 17th of March the inhabitants of an Italianized quarter of Paris situated between the wine warehouses and the rue Monge, and but little known to the dwellers of the right bank of the Seine, were startled by having their provincial silence broken by such shouting and yelling that they were justified in asking themselves if the wild beasts had escaped from their cages in the adjacent Jardin des plantes. An honest porter, fearing both God and the Commune, believed so sincerely that a revolution had broken out that, after having barricaded the house door, he took refuge in the cellar, so that finally the tenants were obliged to have recourse to the strong arm of the law in order to break into their own dwellings. The tumult, however, had nothing of a revolutionary nature and was but a simple manifestation on the part of the students of their dislike for Professor Baillon, incumbent of the botanical chair and living in a charming little house surrounded by the flowers of the Medical Botanical Garden, in the rue Cuvier. The uninitiated in the university contentions and their rights and wrongs are most indignant that such intolerable scenes of indiscipline should be allowed to take place. More than one honest bourgeois is inclined to petition for the promulgation of the Riot Act against the students. Those, however, who themselves have been on the university benches smile quietly and sympathetically on such occasions, knowing well how little they are fraught with importance. Baillon himself is the first one to shrug his shoulders at these demonstrations, letting the students take their own course. No one has ever shown a more disdainful equanimity in face of an unpopularity destined to become legendary. Why he should have excited such continuous animosity is really questionable. In 1869 the professor was always unwelcomed, frequently hissed. Twenty generations of students have passed through his hands, and their traditional reception of him has been faithfully transmitted. Baillon has, notwithstanding, all the characteristics of a good professor. He is a savant of the first order; his lectures are given and his botanical excursions are made with a most exemplary regularity; his exposition is elegant and lucid. More than one of the modern questions concerning medicine are familiar to him. All are unanimous as to the high scientific value of his teaching. The animadversions of the students arise from several causes. In the first place, they detest the accessory sciences, and botany above all others. They all come to Paris fortified by the most excellent resolutions; they intend to commence their professional studies zealously—so that during the first month there are not probably ten students who have not listened to twenty lectures and visited twenty hospital wards. This admirable ardor is considerably cooled by the rigidity of an archaic curriculum. You desire to study medicine? Commence, then, by studying physics, chemistry, and natural history. Adieu, then, to ambitious desires, to the near realization of the hope to wear the hospital apron. The mornings must be passed in scientific laboratories where but little is understood, the evenings at lectures whose utility is to the student mind doubtful, making but slight impression, and listened to in the few free moments left by yawning and stamping.

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* Read before the Section in Pædiatrics of the New York Academy of Medicine, March 13, 1890.

When the unfortunate student consults his inscription paper to learn when he can commence medicine, he finds that the hospitals are to be frequented during and after the third year. This naturally he ascribes to the accessory sciences, which he correspondingly detests. He detests Baillon also because the latter is a most ferocious examiner. His questions are put in such a frigid manner that the more timid candidates lose their self-possession. He willfully ignores the efforts made by the students to prepare themselves for the examination in botany. So much the worse if chance wills it that they are questioned upon points of which they are ignorant, for then they are refused without mercy. "Oh that I may not have Baillon as examiner!" is the prayer of the students two months before the examination. Baillon terrifies even the wisest, for he is extremely witty, always caustic, even bitter in his remarks to the unfortunate candidate guilty of an error. Some are so discouraged that they leave before the end of an examination; others, again —and these are extremely rare—give blow for blow and sarcasm for sarcasm. Baillon on one occasion said to a student guilty of several equivocal answers and whose failure was assured: "Now, sir, in dearth of other knowledge, perhaps you can tell me something of the *Oxyurus vermicularis?*" "Most certainly," replied the student; "the *Oxyurus vermicularis* is a plant of the family of the *Labiatæ*, which grows on the meridional slope of the Pyrenees." Needless to say that the examination came abruptly to an end and the student adjourned to a later period. For my part, I should hardly dare to affirm that he did not take a prominent part in the recent manifestation succeeding Baillon's first lecture, and was not one of the crowd following the professor for more than a kilometre, filling the air with their expressions of dislike, of derision, and demands for his removal.

The Paris medical body and school have been afflicted by the death of Professor Trélat in his sixty-second year. He was a surgeon of great merit and a distinguished savant, but had the faults as well as the good points of too great a number of our contemporaries. His mind was very receptive, open to all impressions; he was skillful, intelligent, but did not understand how to measure his strength or to direct it toward any given aim. Nobody's opinion was esteemed more than his at the Academy of Medicine, and he was surely destined to occupy the next vacant seat at the Institute. He was received *agrégé* of the Faculty at twenty-eight, and his thesis upon phosphorus necrosis is a masterpiece in the way of exposition and method, and still consulted.

In despite of all this, Trélat left no original work other than that upon facial autoplasty. Aside from being a surgeon, he was a man of the world, a seeker of curious things, an artist, interesting himself in everything and everybody. At his funeral, discourses were pronounced on behalf of the Academy of Medicine and the Surgical Society, as was natural; but that the societies of hygiene, both professional and national, should speak; that Ferry, an ex-minister of France, should bear witness to the uprightness and liberality of his friend, explains Trélat's career. He was an orator, a hygienist, a politician; their themes were the rivals of surgery, and the hours consecrated to them were taken from the latter. He had a veritable talent for bringing out the point of a discussion.

One of the doctors who follow the meetings of the different societies lately made a humorous comparison of their habitual orators: "When Verneuil speaks upon a question, every one is charmed, but no one understands it any better; Trélat takes the floor and everything immediately becomes clear, but if by misfortune Le Fort should interfere, all future possibility of comprehending would be forever lost."

There was a most animated contest between Trélat and Dolbeau about 1868 or 1869 for the professorial chair. Dolbeau was a good operator, but all those in favor of progress preferred Trélat, who was more brilliant and of broader views. Dolbeau, however, was elected, and in despite one is forced to admit that his surgical acquirements surpassed Trélat's.

The Harlem Medical Association.—The programme for the last meeting, on Wednesday evening, the 7th inst., included a paper on Antiseptic Methods for the General Practitioner, by Dr. A. M. von Duering; a report of a case of perityphlitic abscess, by Dr. S. E. Gibbs; a report of two cases of spinal concussion, by Dr. A. H. Leary; and a report of a case of severe constitutional poisoning from the external application of small quantities of aconitine oleate, by Dr. M. R. Richard.

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THE PAROXYSMAL PULMONARY ŒDEMA OF BRIGHT'S DISEASE.

Although œdema of the lung is one of the most important of the thoracic complications of Bright's disease, and as such has attracted much attention, yet, according to M. Bouveret, there is a form of this œdema which has thus far escaped the notice of clinicians. This particular form is characterized by a sudden onset, an excessive dyspnœa with threatenings of asphyxia, and a very abundant albuminous expectoration. This acute œdema occurs in distinct attacks lasting each from some minutes to several days, and terminates either fatally or in complete disappearance of all the prominent symptoms. It is not commonly met with. Bouveret has found but three cases in all his records of interstitial nephritis occurring in the last eight years in both his hospital and his private practice. In his article in the Revue de médecine for March 10th the histories of two cases are given in detail, and they afford an idea of the nature of this affection, which is quite distinct from the œdema associated in ordinary cases with Bright's disease, differing not only in symptoms, but also in origin. It must be regarded as an acute change occurring in the course of a chronic interstitial nephritis, either in its early stages or at an advanced period. In one of the cases cited the patient regained his generally good condition of health. In addition to its course, so clearly paroxysmal, this form of œdema is specially characterized by its rapid mode of onset and of termination, the intensity of the asphyxia, and the sudden appearance of copious, frothy, reddish expectoration containing a large quantity of albumin, which is evidently the serum of the blood that has exuded from the pulmonary vessels and filled the alveoli and the bronchial tubules. The duration of the attacks is short, lasting from twenty minutes to four hours. This enormous secretion of serum through the respiratory apparatus is followed by a diminution in the amount of the urine, which becomes scanty, dense, and high-colored. The immediate cause of the attack has not been determined; possibly in one of the cases it was the result of over-exertion, but in the other instances the onset seems to have been spontaneous. Paroxysmal œdema is a dangerous complication of interstitial nephritis, and asphyxia is imminent so long as the attack lasts. If nothing arrests the exudation of bloody serum, if the expectoration fails to keep the air-passages clear, or if the right heart weakens, death is inevitable.

An explanation of this condition was given by Fraentzel in his work on Diseases of the Heart (Berlin, 1889), where he describes similar attacks in connection with enlargement of the heart from renal causes. He considers them the result of an upsetting of the equilibrium between the left ventricle and the right ventricle. This interpretation is supported by the experiments of Welch, undertaken under the direction of Cohnheim, which show that the most potent cause of pulmonary œdema is weakness of the left heart, which is apt to occur at the end of an interstitial nephritis. This explanation, however, fails to satisfy M. Bouveret, and he regards it as inconsistent with observed clinical facts. Those who have attempted the interpretation of renal phenomena have given themselves up too much to humoral and mechanical theories, and have failed to take nervous causes into account, and Bouveret is disposed to regard this enormous flux, which begins and ends so suddenly, as proceeding from a disturbance of the vasomotor apparatus in the distribution of the pulmonary artery. It is difficult to determine the point of origin of the morbid influences which give rise to the dilatation of the vessels.

THE USE AND ABUSE OF DRAINAGE-TUBES.

Mr. R. J. Godlee suggests in the Practitioner that by a curious irony of fate it would seem as if the perfection of the antiseptic system inaugurated by Lister was about to lead almost to the abolition of what in its early days appeared to be, and probably was, essential to its successful application. This seems rather unlikely, but Mr. Godlee's opinions on the subject are very interesting. At present wounds are closed completely, or nearly so, by means of sutures, and in almost every case an attempt is made to secure primary union by complete arrest of hæmorrhage, pressure, and surgical cleanliness. Drainage-tubes by their presence not only tend to prevent complete primary union, but also furnish an element of danger in their liability to admit infection to the wound at each dressing. He maintains that they should be dispensed with in incised or lacerated wounds where it is possible to arrest all or nearly all hæmorrhage and to apply steady and uniform pressure. In large and complicated wounds they should be as short as will serve the purpose. When drainage-tubes are thus dispensed with, however, the temperature does not seem to keep so nearly normal as when the wounds are perfectly drained, and there is risk of collections of blood or serum forming under the flaps. In many cases these collections may be absorbed, but in others they will require removal and healing will be delayed. Reference is made to the omission of drainage-tubes in trephining by Mr. Horsley, because an escape of cerebro-spinal fluid or a hernia cerebri is less likely to occur, and to the fact that after operations in the peritoneal cavity the peritonæum is able to take care of whatever effusion ordinarily takes place, so that drainage is necessary only in certain cases.

It is only too true that in surgery as, in many other things, there are fashions which come and go, as Mr. Godlee suggests, but we should be sorry to think that the change in the practice of English surgeons regarding the use of the drainage-tube was to be the result of a whim or fashion. The universal adoption of the drainage-tube was not on account of the tube itself, but because it formed a part of the paraphernalia of a new system of wound treatment which promised and gave results wonderfully better than the most sanguine hopes of earlier surgeons pictured. Certain parts of the paraphernalia were dropped after evidence had been obtained that their employment was not essential to success, and other parts have become more or less restricted in their application. So, if surgeons decline to employ the drainage-tube now in every case in which it was formerly employed, but restrict its use to cases in which they consider it necessary or advisable, it is not through obedience to a whim of fashion, but it is the natural result of observation.

MINOR PARAGRAPHS.

LASSAR'S TREATMENT OF BALDNESS.

The treatment recommended by Lassar, of Berlin, for alopecia pityrodes and alopecia areata has been attended with some brilliant results. According to Dr. Graetzer's article in the Therapeutische Monatsschrift, but few cases resist the treatment, and after a few applications the downy sprouts may be seen. The following procedure is to be repeated daily: 1. The scalp should be lathered well with a strong tar soap for ten minutes. 2. This lather is to be removed with lukewarm water, followed by colder water in abundance; then the scalp is to be dried. 3. A solution of bichloride of mercury, 1 to 900, the menstruum being equal parts of water, glycerin, and cologne or alcohol, is to be rubbed on. 4. The scalp is then rubbed dry with a solution containing beta-naphthol, 1 part, and absolute alcohol, 200 parts. 5. The final step in the process is an anointing of the scalp with an unguent containing two parts of salicylic acid, three parts of tincture of benzoin, and 100 parts of neat's-foot oil. This treatment should be persisted in for a period of six weeks or longer. Lassar, who by the way is the secretary-general to the International Congress of this year, has done much to awaken the profession from the lethargic state into which it had fallen in regard to the treatment of alopecia; he is reported to have treated a thousand cases in the manner described. The attitude of physicians toward this affection of the scalp has been one of inattention and indifference. When a young man comes under notice whose baldness is conspicuous his case has not uncommonly been the subject of some trivial remark ascribing the causation of the trouble to excesses *in Venere et Baccho*, or of the more sarcastic vulgarism bearing upon the affected person's "early piety." These supposed causes may be wide of the mark. The parasitic theory of the causation of hair-fall, as advocated by Unna and Sehlen, has its support in those not infrequent cases where the trouble seems to be referable to the use of unclean utensils by the barber. In this class of cases Lassar's treatment will find its indications and successes more frequently than in that other, neurotic, class described by Michelson and Schütz as occurring in young persons who have a "nervous" history or have met with a traumatism affecting the head and brain.

THE DEVELOPMENT OF THE NERVOUS SYSTEM.

A synopsis of some of the more important recent contributions to the study of the development of the nervous system was given in a lecture by Professor Hamilton, of Aberdeen University, before the Philosophical Institution of Edinburgh on January 15th. A report of the address appears in the British Medical Journal for January 18th, from which we quote the following conclusions: The lecturer concluded that the complex nervous system originated in a number of sense organs in the skin; that in the course of time these sense organs sank deep into the body wall and became modified into nerve cells and fibers; that the nervous system then assumed the form of a ring with the alimentary canal passing through it, and with a small brain-like ganglion placed on the ring above and another below the gullet; that this simple ring, with its two ganglia, formed the type of architecture in the brains of all the higher vertebrates, although the part of the original alimentary canal which the ring surrounded had become obsolete; that the vertebrate spinal cord was probably the united ganglionated cord of the invertebrate, and that the canal in its center was the original invertebrate alimentary canal, while the ventricle in the brain was originally the invertebrate stomach; that the development went on, the ganglia becoming more highly organized and ending in the primitive cerebrum of vertebrates low in the scale; and that as this cerebrum grew in proportions and became a prominent object, functions were translated to it which had formerly been inherent in parts of minor importance, these parts lapsing correspondingly into a state of comparative obsolescence or complete inactivity.

THE HEROIC CONDUCT OF SURGEON GURVICH.

The Lancet refers in most commendatory terms to the Russian prison surgeon, Dr. Gurvich, of Ust-Kara, Siberia, who refused to be associated in the fatal punishment of Madame Nahida Sihida. This lady, who had formerly been a school-teacher and was educated and highly refined, was a political prisoner. She had only recently subjected herself to a "hunger strike" for twenty-two days, and her strength was such as had been sustained by food enemata administered by force. According to Dr. Gurvich's statement, moreover, the lady had been under his treatment for heart disease, and she was from every point of view a most unfit subject for a ruthless punishment with the whip. It is stated that a hundred blows were administered on the bare back of this already enfeebled woman; at all events, her death is held to have been due to the flogging she received. Dr. Gurvich refused to be present at the outrage, declaring that the punishment should not be administered. The writer in the Lancet says that the whole profession must feel grateful to Surgeon Gurvich for thus having held out against the committal of such an act of brutality. It is not at all improbable that by so doing he sacrificed his entire official future, and rendered himself liable to be classified among the suspects and the disloyal.

BURIAL REFORM.

Within the past year two London churches have been closed by the authorities on account of the noxious emanations from the bodies placed in the vaults beneath them. The advocates of burial reform have been raising the question whether it may not become necessary to close Westminster Abbey and St. Paul's cathedral for the same reason. The reformers are also discussing another danger to health in the inadequate shelter afforded at cemeteries for mourners, many of whom are women whose nervous vitality has already been sapped and strained by grief and vigil. The exposure in the winter months, to those who attend cemetery burial, is often more than a rugged person can withstand, to say nothing of those whose strength has been impaired. At a recent funeral in London a large marquee tent was erected over the grave, for the protection of the mourners and attendants.

MAMMARY CARCINOMA IN A CAT.

At a recent meeting of the Pathological Society of London Mr. Spencer presented the mammary glands of a cat which showed the existence of carcinoma. The disease was most evident in the posterior portion, the tumors being 1·5 to 4 centimetres in diameter and composed chiefly of caseous material, with some solid undegenerated portions at the periphery. Extension had taken place by the lymphatics, which in front of the sternum were felt as indurated cords. They ended in glands at the root of the neck and in the anterior mediastinum, which were also caseous. The lungs were studded with small translucent nodules, emboli having reached them through the thoracic and right lymphatic ducts and the pulmonary artery. The emboli had reached no farther than the capillaries. The cat was an adult female, and had suffered with an irritating discharge from the nipples, which were swollen and prominent, but there was no ulceration of the skin. The conditions as narrated show a certain amount of similarity to those which are found in connection with mammary carcinoma in the human female. The case was evidently presented as a rarity, for, notwithstanding the great frequency with which cats are used in anatomical and physiological studies, we do not recall any reference to such disease in their mammary glands. It would be pretty certain to excite attention were its existence at all common.

A PROPOSED ATROCITY IN THE CENSUS.

A published list of the points on which information is to be asked for—and refusal to give it to involve a penalty in the shape of a heavy fine—by the census enumerators contains the following: "Whether suffering from acute or chronic disease, with name of disease and length of time afflicted." "Whether defective in mind, sight, hearing, or speech, or whether crippled, maimed, or deformed, with name of defect." We have no hesitation in saying that questions on these points are useless for statistical purposes, because, so far as they are answered at all, they will be answered ignorantly, mendaciously, or evasively in the great majority of instances. To put such questions to every man and woman in the United States is a piece of offensive impertinence; to attach a penalty to refusal to answer them is a monstrous oppression. The atrocious scheme ought to be crushed by those in authority.

CLINICAL INSTRUCTION IN INSANITY.

A special hospital for the insane is to be established in London, having among its features clinical conveniences for the scientific study of mental disease and for the reception of students who desire to know something of this important branch before they come up for graduation. A staff of experienced instructors in psychiatry will be organized to occupy this field, hitherto neglected, not so much on account of any lack of material as because of the difficulty of bringing it within the reach of students and teachers.

IMMEDIATE REPAIR OF THE LACERATED CERVIX UTERI.

Dr. R. L. Dickinson recommends, in the Brooklyn Medical Journal for April, his method of immediately sewing up the rent in the cervix uteri as soon as the labor is terminated. The patient may be placed in Sims's posture, but the dorsal decubitus is preferred, with the hips held well flexed by the sheet-sling. The lower corners of the lacerated cervix are seized in the grip of a double-tenaculum forceps. This reveals the extent of the rent, and the wound is held steady for the stitching; this is the one important step in the procedure. For the suture material, trustworthy catgut is best, but ordinary number eight cotton thread that has been soaked in mercuric biniodide solution, 1 to 4,000, will answer. No assistant other than the nurse is required. The seizure of the flaps checks hæmorrhage in a manner that at first is surprising. In two cases the flow of blood was quite free until the tenaculum forceps gripped the parts, when it ceased at once. This cessation is so pronounced that it points to the cervical vessels as the source of the bleeding in cases where a firmly contracted uterus bleeds. The cervix, after long labors especially, is easily drawn into view—after some protracted labors the anterior lip may be seen at the vulva, without any traction being applied—and it is after long labors that these lacerations are most commonly found. It is only for lacerations extending to the vaginal wall that the operation is designed. As regards the question of involution after this operation, the results have been eminently satisfactory, the cervix in particular regaining a nulliparous size in less than three weeks.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 6, 1890:

DISEASES.	Week ending Apr. 29.		Week ending May 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	10	0	11	2
Scarlet fever	75	7	83	10
Cerebro-spinal meningitis	2	1	2	1
Measles	273	30	365	22
Diphtheria	117	32	94	27
Varicella	10	0	12	0

The Vanderbilt Clinic.—Dr. Charles H. May has been appointed chief of clinic in ophthalmology.

The Woman's Hospital.—Dr. A. H. Buckmaster has been appointed an assistant surgeon.

Changes of Address.—Dr. A. H. Buckmaster, from Brooklyn, to No. 50 East Thirtieth Street; Dr. J. F. Ferguson and Dr. D. H. Sprague, to No. 168 Lexington Avenue; Dr. Henry Herman, to No. 627 Lexington Avenue; Dr. W. M. Leszynsky, to No. 61 East Seventy-fifth Street; Dr. George M. Tuttle, to No. 49 West Thirty-eighth Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, for the two weeks ending May 3, 1890:*

White, Robert H., Major and Surgeon, now on duty at Fort Myer, Virginia, by direction of the Secretary of War will report in person to the superintendent of the U. S. Military Academy, West Point, New York, for temporary duty as post surgeon during the absence of Henry McElderry, Major and Surgeon, as a member of the Army Medical Board, New York city. Upon the return of Major McElderry to duty at West Point, Major White will return to his proper station. Par. 4, S. O. 94, A. G. O., Headquarters of the Army, April 22, 1890.

By direction of the Secretary of War the following changes of stations of officers of the Medical Department are ordered:

Kilbourne, Henry S., Captain and Assistant Surgeon, from Vancouver Barracks, Washington, to Willets Point, New York.

Gray, William W., Captain and Assistant Surgeon, from Fort Maginnis, Montana, to Fort Sherman, Idaho.

Banister, John M., Captain and Assistant Surgeon, from Fort Sherman, Idaho, to Fort Stanton, New Mexico. Par. 1, S. O. 93, A. G. O., April 21, 1890.

Raymond, Henry I., Captain and Assistant Surgeon (Newport Barracks, Kentucky), is hereby granted leave of absence for twenty-five days, to commence on or about May 2, 1890. Par. 5, S. O. 91, Division of the Atlantic, April 19, 1890.

La Garde, Louis A., Captain and Assistant Surgeon. Upon surgeon's certificate of disability, leave of absence for twenty-three days, on account of sickness, is granted, in extension of leave of absence for seven days granted him by orders No. 70, Fort Assinniboine, Montana, with permission to apply to the Adjutant-General of the Army for an extension of one month on surgeon's certificate of disability. Par. 4, S. O. 43, Department of Dakota, April 14, 1890.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Camp Wade, Kingfisher, Indian Territory, to take effect on the expiration of his present leave of absence, and will report in person to the commanding officer, Fort Verde, Arizona Territory, for duty at that station. Par. 12, S. O. 102, A. G. O., May 1, 1890.

Gardiner, John de B. W., Captain and Assistant Surgeon, will, by direction of the President, report in person to Brigadier-General Wesley Merritt, president of the Retiring Board, at Fort Leavenworth, Kansas, for examination by the board. Par. 4, S. O. 99, A. G. O., April 28, 1890.

La Garde, Louis A., Captain and Assistant Surgeon. By direction of the Secretary of War, the ordinary leave of absence granted in Orders No. 70, current series, Fort Assinniboine, Montana, is changed to a sick leave; and the extension of said leave, on surgeon's certificate of disability, granted him in Special Orders No. 43, April 14, 1890, Department of Dakota, is further extended one month on surgeon's certificate of disability. Par. 5, S. O. 97, A. G. O., April 25, 1890.

McKee, James C., Lieutenant-Colonel and Surgeon. By direction of the Secretary of War, leave of absence for one month and fifteen days is granted. Par. 4, S. O. 98, A. G. O., April 26, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending May 3, 1890:*

Scofield, W. K. Commissioned a Medical Director from February 8, 1890.

McMurtrie, Daniel. Commissioned a Medical Inspector from February 8, 1890.

Bogert, E. S. Commissioned an Assistant Surgeon from April 16, 1890.

Spratling, L. W. Commissioned an Assistant Surgeon from April 16, 1890.

Martin, H. M., Surgeon. Reported his return home, and granted sick leave.

Beyer, H. G., Passed Assistant Surgeon. Ordered to delay reporting on board the Yantic until further instructed.

Woolverton, T., Medical Inspector. Detached from Navy Yard, Washington, D. C., and to wait orders.

Beardsley, G. S., Medical Inspector. Ordered to the Navy Yard, Washington, D. C.

Harvey, H. P., Surgeon. Detached from the Ranger, and to proceed home and wait orders.

Heffenger, A. C., Passed Assistant Surgeon. Ordered to the Ranger.

Gaines, J. H., Surgeon. Detached from hospital, Hot Springs, Ark., and granted sick leave.

Spratling, L. W., Assistant Surgeon. Ordered to hospital at Hot Springs, Ark.

Bogert, E. S., Jr., Assistant Surgeon. Ordered to the Vermont.

Olcott, F. W., Assistant Surgeon. Ordered for examination preliminary to promotion.

Anzal, E. W., Passed Assistant Surgeon. Detached from the Yantic, and to resume duty on board the Galena.

Society Meetings for the Coming Week:

Monday, *May 12th:* New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *May 13th:* Kansas Medical Society (first day—Salina); Louisiana State Medical Society (first day—Baton Rouge); Nebraska State Medical Society (first day—Beatrice); New York Medical Union (private); Medical Societies of the Counties of Albany (semi-annual), Greene (annual—Cairo), and Rensselaer, N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Camden (annual—Camden), Morris (annual), and Sussex (annual), N. J., County Medical Societies; Norfolk, Mass., District Medical Society (election—Hyde Park); Franklin, Vt., County Medical Association (annual); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *May 14th:* Indiana State Medical Society (first day—Indianapolis); Kentucky State Medical Society (first day—Henderson); Washington State Medical Society (first day—Spokane Falls); Kansas Medical Society (second day); Louisiana State Medical Society (second day); Nebraska State Medical Society (second day); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Pittsfield, Mass., Medical Association (private); Franklin (annual—Greenfield), Hampshire (annual—Northampton), and Worcester (annual—Worcester), Mass., District Medical Societies; Philadelphia County Medical Society.

Thursday, *May 15th:* Indiana State Medical Society (second day); Kentucky State Medical Society (second day); Washington State Medical Society (second day); Kansas Medical Society (third day); Louisiana State Medical Society (third day); Nebraska State Medical Society (third day); New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *May 16th:* Indiana State Medical Society (third day); Kentucky State Medical Society (third day); Washington State Medical Society (third day); New York Academy of Medicine (Section in Orthopædic Surgery); Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *May 17th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 3, 1890.

The President, Dr. A. L. Loomis, in the Chair.

The Fallacy of the so-called Hot-air Treatment of Phthisis.—This was the subject of a paper by Dr. W. Gilman Thompson. Among the many systems of treatment for pulmonary tuberculosis, none, he said, had excited more widespread interest than the so-called antiseptic methods which were the immediate outgrowth of the discovery of the tubercle bacillus by Koch. One of these methods had originated in Germany about four years ago, and was employed to a considerable extent to-day in this country. It was based upon the fact that heat, of a degree slightly above the body temperature, destroyed or rendered innocuous tubercle bacilli, so that if the germs could only be heated sufficiently *in situ*, by the inhalation of superheated air, they would cease to do harm. To accomplish this result several kinds of heaters had been devised. After giving a description of the apparatuses in use, and the result of each man's work in the treatment of phthisis with the hot-air method, the author drew as an inference that the only changes in the symptoms reliably reported as following the hot-air inhalations were, first, an early increase in the cough, which was subsequently diminished, improvement in the appetite, and slight gain in body weight. The râles were slightly diminished. But in the cases reported these changes had not appeared until the treatment had been continued for weeks or even months, during which time fluctuations in symptoms would occur under almost any treatment. The improvement was never decided in the best authenticated cases, and in many instances the patients were simultaneously taking creasote and other remedies. Moreover, the lung gymnasties, involving deep inhalations, might, in certain cases, have been of benefit by expanding the lungs more fully, thus increasing tissue change in various ways, quite independent of any additional heat. The temporary change in respiratory rhythm, the rise in systemic temperature, and alteration in the pulse-rate, would all be accounted for in the same way. Similar symptoms were capable of production by extraordinary pulmonary exercise at any time. The only observers, Sears and Trudeau, who had made a really thorough report of the relative number of bacilli present while the patients were under treatment, agreed in failing to find any material deviation from the average. The observers above cited all seemed to have omitted to perform any simple experiments to determine whether the heated air really conveyed its heat to the lungs or not, but had contented themselves with speculations. Experiments had shown that while the body remained under normal atmospheric pressure it was a physical impossibility to fill the lung completely with rarefied air—*i. e.*, superheated air—or even to exert negative pressure sufficient to forcibly rupture either normal or weakened vessels, an accident that had been suggested as likely to happen. Weigert and Kohlschutter not only claimed that the hot air penetrated to the deepest alveoli, carrying great heat with it, but that the exhaled air had a temperature ranging as high as 140° F., and that this hot air destroyed the bacilli in some instances, lessened their virulence in others, and finally improved the pulmonary circulation and favored tissue changes and nutrition of the body.

The speaker, after an exhaustive survey of the physics of the subject, then described in detail a number of experiments which he had undertaken for the special elucidation of the points at issue. The animals were subjected to inhalation tests with both hot and cold air, by means of a carefully devised apparatus, the thermometric readings being made from thermometers introduced within the thoracic cavity and other parts. The following would give some idea of the work and its results:

Experiment 2.—Dog. Temperature before inhalation: rectum 100° F. (37·7° C.), lung 100·2° F. Hot-air inhalation was started at 150° F. (65° C.), one inch from the nose, rapidly increased to 200° F., and finally to 220° F. (105° C.). The temperature near the coil was 200° F. higher. Inhalation was maintained for an hour and a half. During this time the temperature in the lung fell 1·2° F., and in the rectum 2° F., while the respiration fell from 26 to 14. The animal took the chloroform very ill, and a great deal was administered, so that a slight chill ensued with the fall of temperature observed in the lung and rectum. There was clearly no entrance of hot air to the lung in this case. The animal was subsequently allowed up, and it appeared bright and well.

Experiment 4.—Bitch, with thermometer placed in right lung. Before inhalation, temperature in vagina 102·2° F. (39° C.), in right lung 103·6° F. (39·6° C.). The inhaler was worn an hour and a half, and the air started at 180° F. (82° C.), and rapidly increased to 290° F. This was the temperature close to the nose and mouth, corresponding to the position in which the writers above quoted professed to have taken the temperature of "expired air," except that the valve and thermometer were a little nearer the mouth. During the first hour of inhalation of air at considerably above 200° F. (93° C.) the vaginal and lung temperatures were frequently noted, and they remained absolutely unchanged from the record prior to the inhalation. The speaker thought that if air at 200° F. (93° C.) would raise the temperature of the lungs at all, it would do so within an hour's time. During the next half-hour, as the temperature of the inhaled air was raised to 290° F. (144·5° C.) at the nose, the animal became very uncomfortable and restless, and there were evident signs of local irritation from the heat, such as profuse salivation, red and swollen tongue and lips, and congested conjunctivæ. Under these conditions a rise of body temperature occurred, amounting to 1·8° F. (1° C.), so that the vaginal temperature at the end of an hour and a half registered 104° F., and the lung 105·2° F. (40·5° C.). This rise of 1·8° F. or more in the body temperature often occurred when a dog was restrained in an irksome position for some time, and was subjected to almost any kind of operation. He had frequently seen the temperature of animals rise 2° F. while they were struggling to resist an anæsthetic. It did not seem fair to refer the slight rise in the final half-hour of this experiment to any effect of the heat other than the local discomfort and irritation produced near the inhaler.

Experiment 11.—Large dog, chloroformed. Temperature before inhalation: in trachea 99·6°, in lung 99·6°, in vagina 101°. Inhalation of cold air continued an hour and a quarter. Temperature in coil 30° to 27° F. Temperature at nose at commencement 65° F., rapidly reduced (as the inhaler was cooled by air from coil) to 40° F., and finally to 37° F. The temperature in the trachea fluctuated 4° F. with each respiration. During respiration under partial anæsthesia it would fall with very deep inspiration 1·2° below the average record in the trachea. The tracheal temperature gradually fell, and at the end of an hour and a quarter the total fall was 10·4° F., whereas, after three quarters of an hour, the temperature of the lung remained unaltered, and in the remaining half hour, when the room and the animal's body grew cold, it had fallen only 2° F. The room had become quite cool, and the animal had grown chilly from its confined position in a cold atmosphere, so that the vaginal temperature registered a fall of 3° F. The animal had recovered its normal condition promptly when allowed to get up, and had seemed uncommonly lively. A fall of only 2° F. in the temperature of the lung after an hour and a quarter of inhalation of air below 40° F. would never be sufficient to control pulmonary hæmorrhage through vaso-motor stimulation. No one would think of controlling capillary oozing on the surface of the body by reducing the local temperature only 2° F. Even if this hæmorrhage came from the vessels of the upper trachea, the fall of only 10° F. there would not control it. It often took a prolonged direct application of ice to produce sufficient vasomotor stimulation to control hæmorrhage, and even that had frequently failed in post-partum hæmorrhage. If our most superficial blood-vessels were affected by changes of temperature as slight as 2° F., or even 10° F., we should rarely retain the same hue of skin for two minutes at a time.

The conclusions reached were that the following conditions combined to secure a uniform mean temperature of the air in the lungs and prevented the entrance of superheated air: 1. The great vascularity of the pulmonary tissue. 2. The extensive surface of the air-sacs and blood-vessels. 3. The slow diffusion of the tidal wave with the residual air. 4. The uniform temperature of the blood, the remarkable heat-regulating mechanism of the entire body, which constantly tended to prevent local increase of temperature through the agency of a very rapid blood stream. 5. The low specific heat of water, and of blood which was so largely composed of water. 6. The large quantity of blood in constant circulation—about fourteen pounds in man. 7. The enormous number of heat units rendered latent by vaporization of water and the ease with which water could be drawn from the blood plasma to the surface of mucous membranes in considerable quantities. 8. The slight conduction of heat by the body tissues.

The experiments, he thought, had clearly demonstrated: 1. That continuous inhalation of air, heated from 200° to over 300° at the nose, did not raise the temperature of the lung at all in some cases, even when inhaled for an hour or more. 2. In other cases, if continued for this length of time, there might be a slight rise of from 2° to 4° F., due to various causes other than the entrance of hot air into the alveoli. 3. The temperature of the trachea under corresponding conditions rose only 4° to 6°, and cold air did not affect the temperature of the trachea or lungs any more than hot air, and was therefore equally useless as an inhalation for any clinical purposes whatever.

It was admitted, however, that there were many physiological experiments in regard to which one must not reason too closely from the lower animals to man, but it seemed that the fundamental conclusions derivable from the experiments were of a type which must necessarily apply to man equally with the lower animals because based on the laws of physics.

Dr. J. Lewis Smith said that some two years ago permission had been asked to make use of the hot-air treatment upon the patients in the consumptive wards in Charity Hospital. This was granted and the treatment was continued some three or four weeks. The general opinion of the resident physicians and that of the speaker was that the patients were not so much benefited by this mode of treatment as by the antiseptic inhalations which had been previously used and which had been employed since. The treatment of tuberculosis was undergoing a very marked change, based on the discovery of its microbic nature. Antiseptics were coming into the foreground and would hereafter be used as therapeutic agents in this disease, and it seemed probable that a considerable number of cases could be cured if treated in their incipiency.

A Study of Cerebral Palsies of Early Life, based upon an Analysis of One Hundred and Forty Cases.—This was the title of a paper read by Dr. B. Sachs, being the joint result of inquiries into the subject by himself and Dr. F. Peterson: Few diseases were better known or more thoroughly understood than infantile spinal paralysis. Its clinical symptoms and its pathology had been definitely determined, so that poliomyelitis anterior acuta scarcely needed further study. The very opposite of this was true of infantile cerebral palsy. While there was but a single form of disease included under the term infantile spinal paralysis, one was forced to admit that there were several different forms of cerebral palsy. The large majority of the cases with which we were here concerned represented spastic forms of paralysis, and, as regarded the distribution of the palsy, might very properly be divided into cases of spastic hemiplegia, double spastic hemiplegia or diplegia, and spastic paraplegia. The authors hoped to show that much of the confusion that had surrounded this subject would be removed if it was considered that a variety of morbid symptoms might give rise to any of the three forms of paralysis, and that the character of the paralysis would depend upon the site and extent of the morbid lesion. But for the difference in the areas of the brain affected and the degree of irritation or destruction of brain-substance, the symptoms in all these cases would be very much the same. The subject here presented had a lively interest at the present time, and yet it was nearly fifty years ago since the first work in this field was done. The physician should no longer be content to make a diagnosis of apoplexy, of hemiplegia, or of paraplegia in the adult. It should be his aim to determine whether the special form of paralysis was due to hæmorrhage, thrombosis, embolism, tumor, or abscess, and so forth—in short, to study the symptoms of each case with special reference to the pathology of the disease. And so with infantile palsies; it was not enough to recognize spastic hemiplegia, diplegia, or paraplegia, but the attempt should be made to determine the special morbid condition underlying each form. The large number of cases made it imperative upon us to make a distinct effort in this direction. A thorough knowledge of the clinical symptoms was, however, the starting-point of this study. Before proceeding to give a history of the cases, a table was submitted, showing that, of the 140 cases, there were 87 in males and 53 in females; of these, 105 were hemiplegias, 24 diplegias, and 11 paraplegias. From the records of the cases presented, the inference would be that, much as the cases differed from one another, they also had much in common; they yielded a distinct composite portrait. The child was either born with or in its early life developed some form of paralysis. In the congenital cases there had been some disturbance during pregnancy, or labor had been tedious had difficult, or definite cause could not be given. In the acquired cases it was seen that the onset of paralysis might occur after acute infectious diseases, during convulsions, or from causes that could not be fathomed. In the majority of cases there were marked spasticity and extreme contractures; in two cases there was a flaccid form of paralysis; in the last case reported the knee-jerks and other reflexes were weak. In all other cases the reflexes were exaggerated, at least on the side or sides paralyzed. Some showed peculiar associated athetoid or other post-hemiplegic movements. In all there was more or less retardation of growth, and various stages of mental impairment from weak-mindedness up to complete idiocy; a few, however, were of good mental development. No changes in sensibility were observed, and the electrical reactions were never markedly altered. Of the 105 cases of hemiplegia, 22 were congenital; of the 24 cases of diplegia, 20 were congenital, and so were 7 or possibly 8 of the 11 cases of paraplegia. Diplegias and paraplegias were more likely to be of congenital origin; hemiplegias were more apt to be acquired in the first three or four years after birth; but it was well worth noting that there were 22 congenital cases of hemiplegia. Some of the cases noted as occurring in the first year might be congenital, and this would help to swell the percentage of congenital hemiplegias. It would not do, therefore, to make the broad distinction so frequently made on the basis of the acquired or congenital character of these palsies. From the table showing the ages at examination it was apparent that diplegic and paraplegic patients were comparatively short-lived, while the hemiplegic often attained a very considerable age. Statistics of the exact ages at death would be more accurate; but, inasmuch as the material included cases from every kind of institution, the inferences to be made were tolerably correct. Among the acquired hemiplegias the acute infectious diseases, including pertussis and pneumonia, played a very important rôle; a strikingly large number had come on during convulsions. In these cases the convulsions were not the initial seizures of acute infectious diseases. In six cases of hemiplegia there was a distinct history of traumatism, and two hemiplegias and one diplegia were the result of cerebro-spinal meningitis, and two cases of diplegia had come on after measles. The table of causes in the congenital cases had pointed a moral. In 16 of the 49 cases there was some difficulty in labor—simple delay or instrumental delivery. The older writers had referred to this cause, but had mentioned hemiplegia only. Dr. Sachs's and Dr. Peterson's percentage was higher, because they had included all forms of cerebral paralysis, and tedious labor as well as instrumental delivery. As regarded the mode of onset of the congenital cases, in several instances attention was first drawn to the disease by the appearance of convulsions at an early day. In these the convulsions were due to the same lesion or process which was responsible for the palsy. In the acquired cases convulsions had preceded the onset of the other symptoms in 36 of 83 cases of hemiplegia, and in 1 case of acquired diplegia. Loss of consciousness had generally accompanied the convulsions. In 6 cases there was a distinct onset without loss of consciousness or convulsions. This had occurred in 4 cases of left hemiplegias and in 2 of right hemiplegias. Two of these left hemiplegias were distinctly syphilitic.

In a review of the clinical symptoms it was shown that, excepting the fact of paralysis, there were no symptoms peculiar to infantile hemiplegia that were not also found in diplegia and paraplegia. While the symptoms varied somewhat in degree in these different forms, all forms had all symptoms in common, excepting those of the onset. It was a difference of degree, not of kind. It remained to be proved whether or not a study of pathological conditions would compel the drawing of a distinction between these three forms, and whether or not hemiplegia, diplegia, and paraplegia respectively represented distinct morbid entities. It was to be seen that a variety of morbid lesions were to be found underlying these conditions and that the same lesion or condition might in the one case be responsible for a hemiplegia, in the other for a diplegia, and so on. There had always been a scarcity of autopsies in this class of cases, and in this respect the writers could report but two. In these, however, there was one advantage—that in both the post-mortem findings were of very recent date—a great advantage if it was remembered that in most of the cases recorded in literature the conditions found were the final result of pathological processes which had continued for years and which shed no light whatever upon the initial morbid lesion, and yet that was the salient point of the entire controversy. From information gained by macroscopical and microscopical studies, a table analyzing the records of one hundred and five autopsies, including the author's, was given. The first and most conspicuous feature of this table was the prominence given to atrophy. sclerosis, and cysts. All these were terminal conditions and were almost useless for the determination of the initial lesion. In this list the polio-encephalitis of Strümpell was not referred to. First of all, in order to distinguish this from two other lesions which had been termed polio-encephalitis inferior, progressive bulbar paralysis, and polio-encephalitis superior, and nuclear ophthalmoplegia, the author spoke of these as polio-encephalitis corticalis. There was no proof that there was such a condition; it might be conceded, however, that some of the many cases of atrophy and sclerosis might have been due to this polio-encephalitis, but it was unfortunate for Strümpell's theory that all the autopsies made soon after the onset of the disease had shown other conditions, and not a polio-encephalitis. Cases which corresponded very closely to those which Strümpell considered typical of polio-encephalitis corticalis had shown hæmorrhage, embolism, and similar conditions of recent origin. Strümpell had said, however, that not all cases of infantile hemiplegia need be due to this cause and that authors had misinterpreted his views. Was there not a probability, then, that few, if any, of the cases of infantile hemiplegia were cases of polio-encephalitis corticalis? Strümpell had but very recently reported two cases of adult apoplexy in which every one would have made the diagnosis, and indeed he had made it, of embolic softening, but the post-mortem examination revealed a condition of encephalitis hæmorrhagica of the gray as well as of the white matter. In view of this, the opinion might be ventured that polio-encephalitis corticalis might be the cause of some of the cases of infantile palsies, but not of the hemiplegia alone, for several cases had been seen in which all the symptoms were those of Strümpell's disease, but there was a diplegic and not a hemiplegic form of palsy. It was insisted that, until further pathological proof was forthcoming, polio-encephalitis corticalis should be diagnosticated last, not first. Going on to speak of the vascular troubles, the writers stated that it had been found that meningeal and cortical hæmorrhages were more frequent in children than in the adult. This would explain the more serious character of the symptoms in the young, and the more frequent occurrence of epilepsy and mental impairment in children. Thrombosis occurred in a comparatively small number of cases. Although Gowers had laid particular stress upon thrombosis causing occlusion of the smaller cerebral veins and thought this the most important factor in the causation of infantile hemiplegia, he had not been able to prove this to be true. The question arose, whether it was possible to determine the morbid lesion in any given case. The following conclusions were submitted, being the result of extended clinical and pathological studies: The form of paralysis was not the most important factor in diagnosis. Acquired cases of hemiplegia and diplegia, but particularly of the former, were apt to be due to the same causes that prevailed in adult apoplexies—namely, hæmorrhage, thrombosis, or embolism. Meningeal and cortical lesions were more frequent. Absence of convulsions at the onset probably pointed to an intracerebral lesion. Occurrence of convulsions at the onset pointed generally to cortical lesions or to embolism anywhere in the brain. In a few cases affections of gray matter lower down in the central nervous system might also be attended by convulsions. Frequently repeated convulsions after the onset were probably due to cortical lesion. Cases coming on after acute infectious diseases had been proved to be due to vascular derangement, particularly to hæmorrhage and embolism, but some cases might be due to a polio-encephalitis corticalis; the onset with very high fever and convulsions made the latter more probable. Traumatism was an important factor in the causation of meningeal hæmorrhage during early life, and particularly during the act of labor. Congenital cases of diplegia and hemiplegia might be due to early meningeal hæmorrhage, and possibly to an early encephalitis. In acquired and congenital cases of hemiplegia and diplegia there might be either a condition of porencephalus or arrest of development. If acquired, there would seem to be the history of slow development of the symptoms without predisposing cause. If congenital, there might be a history of traumatism to the mother. In advanced life hemiplegia or diplegia, associated with a large amount of mental impairment and with contractures, pointed to general atrophy, sclerosis with secondary degeneration, or to a condition of porencephalus. Regarding treatment, so far as prophylactic measures were concerned, the warning was repeated to the obstetrician—hasten protracted labor, for the skillful use of the forceps and careful manipulation were less apt to do injury than the prolonged compression of skull and brain in the pelvic canal. Medical advice was generally sought for the relief of the secondary conditions—epilepsy, idiocy, and contractures. The usual remedies should be employed, but these should be administered with the utmost discretion. The proper use of electricity and massage in the early stages would prevent to some extent the formation of extreme contractures. Surgical interference in cases of hemi-epilepsy might be entertained in selected cases. Trephining for the relief of severe headaches and local epilepsy might be attempted. Much could be done for the condition of mental enfeeblement by early careful manual and mental training.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of April 14, 1890.

Dr. Robert Abbe in the Chair.

Thyreoidectomy.—Dr. C. A. Powers, by courtesy of Dr. W. T. Bull, presented two cases in which the patients had been operated upon for the removal of enlarged thyreoid bodies.

The first case was that of a young woman of twenty-five years of age, giving a tuberculous family history. Although the patient had suffered from glandular enlargements since she was eight, it was only two years ago that she had noticed the swelling of the thyreoid. Since then it had steadily increased until it had reached the size of a child's fist. A Y-shaped incision was made and the thyreoid arteries were tied on each side before the gland was removed, the operator laying some stress on the deligation as of value in this operation. To guard against the development of myxœdema, a small portion of the gland was left *in situ*. Hæmorrhage was profuse. The case had given no subsequent trouble. The tumor had been demonstrated to be a colloid cyst.

The speaker then showed another patient upon whom this operation had been performed after ineffectual efforts at arresting the progressive growth by iodine injections, used once or twice a week for the five months prior to the operation. The left lobe of the gland was dissected out. The inferior thyreoid artery was tied, but the superior was not found. The termination had been favorable. The pathologist had reported the growth as a venous angeioma.

Dr. F. Hartley said he had tried the effect of ligaturing the four thyreoid arteries, but knew nothing of the result. There had been no diminution in the size of the growth while the case was under observation. He had done altogether eight thyreoidectomies.

Dr. J. A. Wyeth had operated in eleven cases of goître, five of which had been cystic and six sarcomatous, and all unilateral. He would never operate upon the double goître. The procedure was twice as dangerous as that for unilateral removal, and without some small quantity of the glandular tissue there was risk of death by myxœdema.

Dr. Powers asked if any one present had had experience with the treatment of these enlargements by injections of iodine or anything else. He had been unable to arrive at any definite conclusion as to the value of the method. In dispensary practice the patients grew tired of it.

Dr. W. W. Van Arsdale had seen these goîtres treated with iodine injections without any apparent result, therefore he did not advise his patients to waste their time. It only allowed the tumors to grow larger, and patients were better off when advised to undergo an operation reasonably early.

Dr. R. H. Sayre had seen one case of double parenchymatous goître in which ligature of the thyreoid artery on one side had been done, with the view of effecting reduction. Soon after the ligature of the artery the tumor had diminished very much, not only on the side of the ligature, but on the other side, so that it gave little inconvenience.

The Chairman had tried iodine in these cases, continuing it for several months, and using it hypodermically. He considered the result too discouraging to warrant perseverance. Cysts, he thought, might be dissected out if approached carefully. While it was possible to cure by drainage, he thought the clean removal of the gland preferable as a surgical procedure.

Conical Stumps following Amputations.—Dr. F. F. Brown presented a case of a young woman, twenty-three years of age, with a conical stump of one lower extremity. When she was six years of age she had so injured the right ankle that amputation had been necessary. The wound had healed kindly, though not by primary intention. The stump had given no discomfort until two years and a half ago, and it now presented all the characteristics of conicity, though the case could not be said to illustrate the accepted theories with reference to the rapid development of this condition in children.

Dr. Powers showed a specimen of conical stump which he presented in the name of Dr. McBurney. A young man of twenty-three had suffered amputation of the humerus at the upper third. The stump had remained in good condition until four or five years ago, when the end of the bone began to press on the soft parts, calling for reamputation. Section through the portion removed showed the medullary canal as running to the apex of the conical end, and that only a thin layer of compact tissue intervened between it and the skin.

Three Cases of Comminuted Fracture of the Lower End of the Humerus.—Dr. Powers then presented a boy of nine years who had suffered a T-shaped fracture at the lower end of the humerus in April, 1889, and a man of thirty years who, in August, 1889, sustained a T-fracture at the lower end of the humerus, with a transverse fracture through the shaft about an inch above the base of the T; also a boy of three years who had fractured the external condyle in January of the present year.

The treatment in each of these cases had been the same. The diagnosis was made and the first dressing done with the patients under ether. Plaster of Paris was immediately applied, great care being taken to see that the position of the fragments was correct. This dressing, as a rule, should be reapplied at the end of ten days, and the limb kept confined from four to five weeks.

The result in the first case was perfect, with the exception of flexion, which was a few degrees short of complete, due to the impingement of the coronoid process of the ulna on an anterior callus.

In the second case—that of the man with severely comminuted fracture—there was flexion to 75° and extension to 145°. The child with fractured external condyle had developed a pneumonia ten days after the accident, and, through a misunderstanding, had the arm confined for thirty-seven days. On its removal from the splint, the limb on the sound side was confined beneath the clothing, thus forcing the child to use the affected arm in all requirements. No applications whatever were made, yet at the end of thirty days after removal of the splint the child had absolutely perfect use of the limb. In none of these cases was there resulting deformity. Dr. Powers dwelt at some length on the inadvisability of employing passive motion in elbow-joint fractures, stating that the subject had been brought up at the meeting of the State Society in Albany, at which time some members had expressed their fear that ankylosis would follow prolonged confinements. He felt very strongly that no passive motion should be made in this class of cases.

Dr. T. H. Manley thought that injuries to the elbow joint in adults never resulted in the restoration of functional integrity to the elbow joint.

Dr. Sayre cited a case in which the patient, after severe comminuted fracture of both arms, involving extensive injury of the bones near the elbows, had, under passive motion, massage, and electricity, regained absolute use of the disabled joints.

Dr. Hartley recommended that in such injuries the greatest care be taken at the time of reduction that the normal relations of the injured bone or bones should be restored. The limb might be left undisturbed for four weeks, when the matter of motion might be left to the patient.

The Chairman said that the question was of considerable and growing interest. He called to mind a meeting in which the late Dr. Sands had taken an active part, when it was conceded that passive motion should be limited. Since then the opinion had been gaining ground in favor of less and less passive motion. If the joint was only set right at first, with a thorough understanding on the part of the surgeon as to the exact anatomical points in the fracture, and then, once the bones were in place, if they were kept in place, there would be functional restoration of the joint. The failures were the result of imperfect replacement at first. If there was no mistake made at this time, Nature would restore the integrity of the joint.

Successful Operative Treatment in a Case of Spinal Compression.—Dr. Wyeth showed a small boy, the details of whose case had already appeared among the proceedings of the New York Surgical Society of January 22d. The case was one of great interest. The boy had gone to bed well, and on the following morning had found himself unable to stand alone. The symptoms were those of paraplegia, which had steadily increased until muscular movements of the lower extremities were abolished. There was paralysis of the bladder, with superdistension and overflow. Cystitis and retention had rendered the performance of suprapubic cystotomy necessary. The child's condition was most deplorable and the parents had consented to operative interference with the hope that some removable cause of the paralysis might be found. In November last the speaker had operated, choosing as the site of incision a marked gibbosity at the situation of the fourth, fifth, and sixth dorsal vertebræ. The spines and laminæ of these vertebræ were exposed by lifting away the superimposed muscles, and then removed. This had disclosed a small tumor situated on the right half of the posterior and posterior lateral columns of the cord. Thirty minims of the contents were evacuated, examination of which had demonstrated pus constituents. Since the operation there had been gradual restoration of all the lost functions. The operation should encourage effort in this line of work.

The Chairman narrated the history of a case in which the patient, a young adult, was suffering complete paraplegia, the symptoms suggesting a growth within the spinal canal pressing upon the cord. The result of the operation had been most gratifying, as after it the patient, at the end of three weeks, had begun to walk, and was now practically restored so far as function was concerned.

Dislocation of the Clavicle successfully treated by Alcohol Injections.—Dr. F. Townsend showed a patient, a girl of twelve, who had suffered dislocation of the sternal end of the right clavicle by being struck on the chest with a base-ball. She was first seen at the Hospital for the Ruptured and Crippled on September 11, 1889. At this time the injury was of two months' standing. The clavicle would only remain in place when the arm was held firmly at the side, any upward or outward movement of the limb causing a very complete dislocation, reducible by pressure or replacement of the arm to the side. A firm compress was applied and the arm secured to the side by plaster-of-Paris dressing. On October 14th these dressings were removed, when it was found that the luxation could be as readily effected as before. No further attempt was made at fixation. On November 6th fifteen minims of ninety-five-per-cent. alcohol were injected at the clavicular edge of the articulation, a compress applied, and the arm supported by a sling. Similar injections were made at intervals of about twenty-one days. Following the third or fourth injection it was noticed that the clavicle no longer slipped out of place, except upon extreme motion, and then only to a much more limited extent. On March 19, 1890, the cure was practically perfect. There had been no pain at any time, and there remained only a slight induration about the joint. The clavicle had remained in place, the girl using her arm with perfect freedom. The idea had been suggested to the speaker by seeing a case, after similar treatment, presented to the New York Surgical Society by Dr. Stimson.

Dr. J. D. Bryant said that he had no experience with the treatment which had been adopted by Dr. Townsend. He had seen several cases of dislocation of the sternal end of the clavicle and was quite alive to the difficulties which such cases presented, both in effecting reduction and in keeping them in place when they were reduced. He could only say that the success that had attended Dr. Townsend's treatment should be a further incentive to the adoption of the method, for it was certainly very gratifying.

Outward Dislocation of the Radius of Long Standing.—Dr. B. Vaughn showed a young man whose arm he had accidentally discovered to be in this condition. The patient, when a boy three years of age, had fallen upon his left arm. The surgeon in attendance had found fracture of the lower end of the radius. After treating this four weeks, the state of things at the elbow was first noticed, but no attempts at surgical treatment had been pushed. The boy had engaged in sports and as a young man had been an active athlete, and had apparently suffered no inconvenience, though the head of the radius was so dislocated as to constitute a marked deformity, standing well out external to the external condyle. Flexion and extension were almost as good as in the right arm; supination and pronation were also perfect. There was an inch of shortening in the left forearm, while the circumference above and below the dislocation was slightly less than that of the right side. The speaker thought that the case was a rare one in point of the excellence of function supervening upon the absence of treatment.

Skin Grafting by Thiersch's Method.—Dr. Dunham presented two very successful cases illustrating the applicability of the transplantation of skin for the rapid healing of extensively denuded areas. The first case shown was that of a girl who had been run over by an ice-cart, suffering extensive laceration at the knee. In three weeks after grafting was performed the whole surface was intact. The second case was that of a colored man, twenty-seven years of age, who, being seized with an epileptic fit while sitting beside a fire, had fallen and upset a kitchen utensil, scalding himself with the boiling contents on the left thigh and leg. He had come under the speaker's care two weeks after the accident, the thigh presenting a large granulating surface from which the sloughs had not completely separated.

As soon as the surface of the sore was deemed sufficiently clean, which was about three weeks after injury, the operation of skin grafting was performed. The surface to be covered was from three to eight inches in width. The grafts were taken from the opposite thigh, an effort being made to cover in the whole of the granulating area. The operation had been entirely successful, and the transplanted skin was firm and sound.

In reply to inquiries, Dr. Dunham said that the dressing was done every day for two weeks. He then explained at length the method of skin grafting on a large scale.

Bloodless Amputation at the Hip Joint.—Dr. John A. Wyeth read the following paper:

In presenting to the Surgical Section two patients upon whom I have amputated at the hip for sarcoma of the thigh, I earnestly invite the Section to the consideration of this operation as devised and carried out by me.

It is well known that the terrible death-rate after hip-joint amputation is chiefly due to hæmorrhage. Compression of the aorta or common or external iliac has not rendered the operation less dangerous. The figure-of-eight elastic bandage of Esmarch carried above the iliac crests or around the abdomen, and the transfixion by a single needle passed in front of the neck of the femur and beneath the vessels, over the ends of which a rubber cord is carried only in front of the thigh, as advised by Trendelenburg, are improvements on older methods, but are far from satisfactory. Without going into the history of this amputation I submit my method as follows:

The patient being placed in position, with the hip of the side to be operated on well over the corner of the table, the foot is elevated and an Esmarch bandage applied to drive the contained blood toward the heart. The bandage should not be tightly put on over the seat of the disease for fear of driving septic matter into the circulation. With the rubber bandage still in position, the needles are next introduced.

Two steel mattress-needles, three sixteenths of an inch in diameter and a foot long, are used. The point of one is inserted an inch and a half below the anterior superior spine of the ilium and slightly to the inner side of this prominence, and is made to traverse the muscles and deep fascia, passing about half way between the great trochanter and the iliac spine, external to the neck of the femur and through the substance of the tensor vaginæ femoris, coming out just back of the trochanter. About four inches of the needle should be concealed by the tissues.

The point of the second needle is entered an inch below the level of the crotch internally to the saphenous opening, and, passing through the adductors, comes out about an inch and a half in front of the *tuber ischii.* No vessels are endangered by these needles. The points are protected by corks to prevent injury to the operator's hands.

A piece of strong white rubber tube half an inch in diameter and long enough when tightened in position to go five or six times around the thigh, is now wound very tight around and above the fixation needles and tied.

The Esmarch bandage is removed and five inches below the tourniquet a circular incision (Fig. 1) is made, and a cuff which includes the subcutaneous tissues down to the deep fascia is dissected off to the level of the lesser trochanter, at which level the muscles and vessels are divided squarely and the bone sawed through (Fig. 2). All vessels (including the veins) which can be seen are tied with catgut and the smaller bleeding points can be discovered by slightly loosening the tourniquet.

The remaining portion of the femur is now easily removed by dividing the attached muscles close to the bone and opening the capsule as soon as it is reached. On lifting the end of the bone in the direction of the patient's navel and dividing the cotyloid ligament posteriorly, the air enters the cavity of the acetabulum and greatly facilitates the division of the ligamentum teres (Fig. 3).

The closure of the wound, with proper drainage, follows (Fig. 4). The entire procedure requires the strict asepsis of modern surgery.

One other important point I wish to emphasize—viz., the advisability in certain cases of doing this operation in *two sittings.*

In one of my cases the patient was greatly exhausted, and after dividing the femur at the lesser trochanter and securing the vessels, fearing the supervention of shock as indicated by the pulse, I closed the wound, which healed by first intention. At the first dressing (on the seventeenth day), the remaining portion of the bone was removed by an incision over the trochanter major. The recovery was uninterrupted.

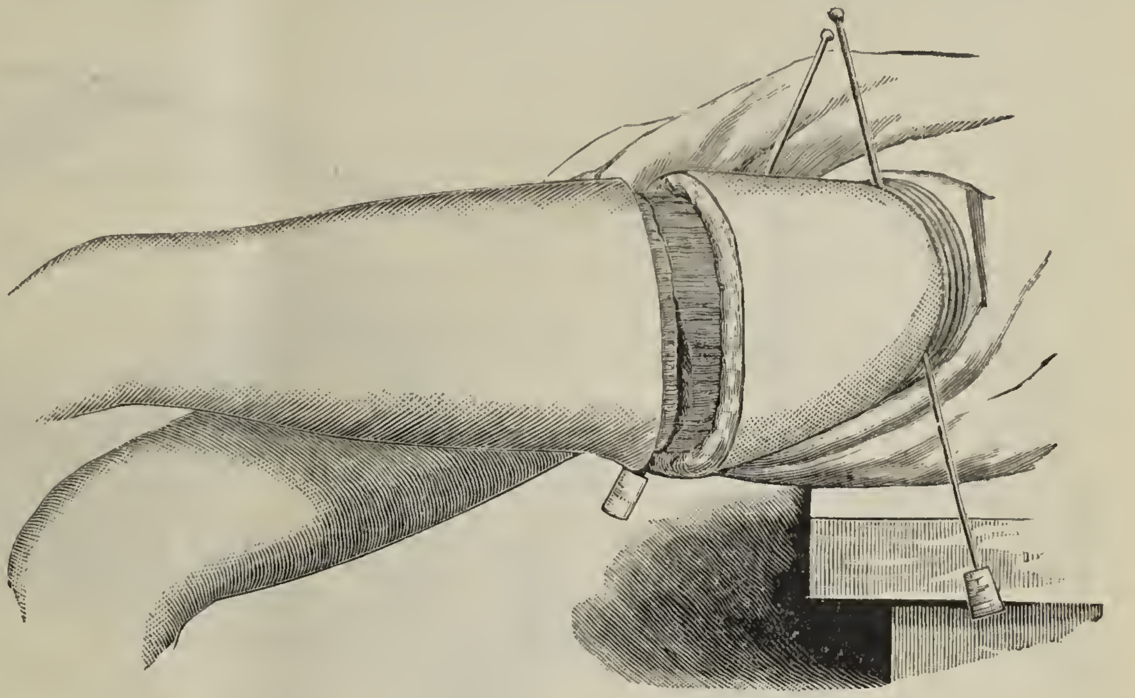

Fig. 1.

I should prefer to complete the operation at one sitting, but cases will occur where the danger of shock may be obviated by stopping short of enucleation, leaving this for a week or two, when reaction and convalescence are assured.

In neither of my cases was there any bleeding, and in two additional operations by this method, very recently performed by two distinguished surgeons of this city, there was perfect immunity from hæmorrhage. *In fact, amputation at the hip joint is now a bloodless operation.*

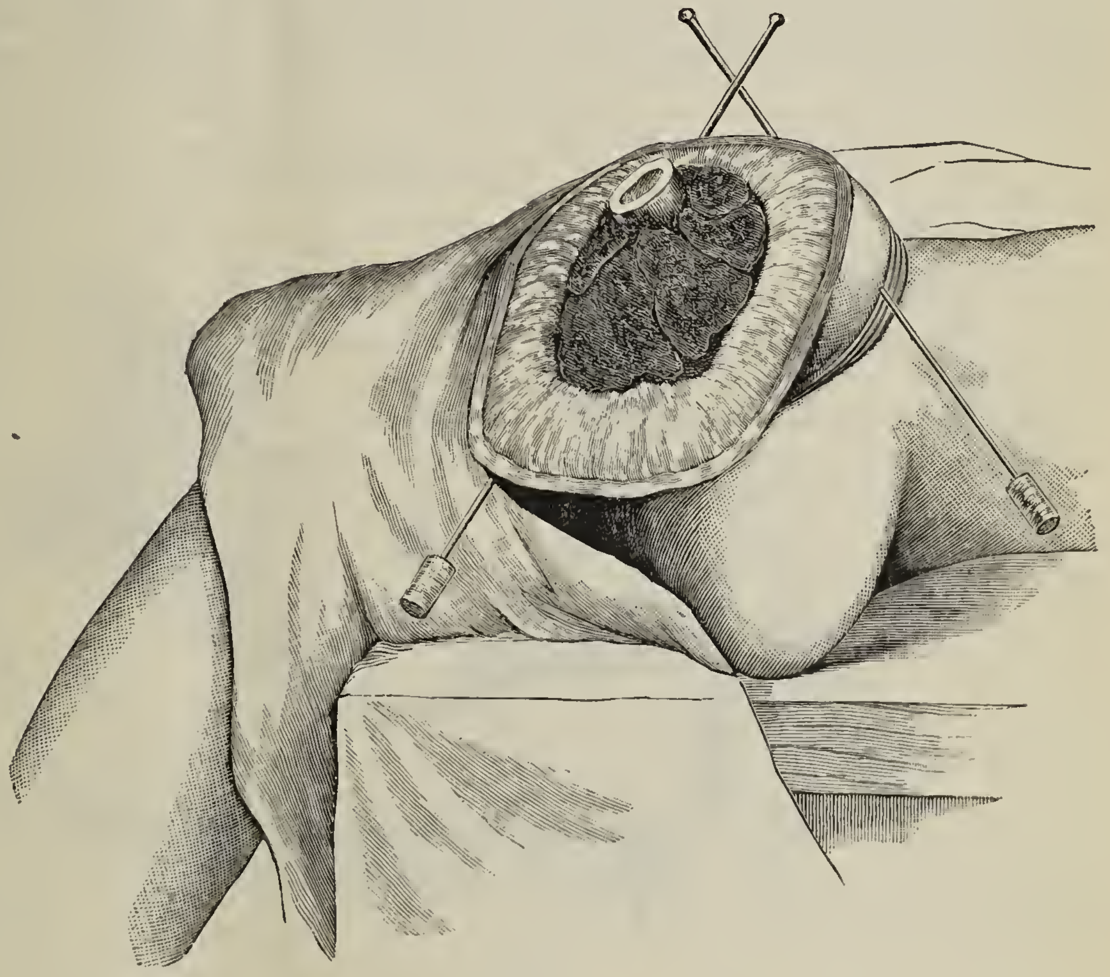

Fig. 2.

Bone Drainage in Osteomyelitis.—Dr. Wyeth also explained the method by which he drained the medullary canals in long bones, after amputation, in which there existed osteomyelitis, abscess, or other necrotic processes. After scraping the canal with a Volkmann's spoon he had introduced a long rubber drainage-tube without holes throughout the length of the diseased canal. Through this tube the cavity was kept continually washed out until the formation of granulation tissue. By this means he was able to save the patient reamputation.

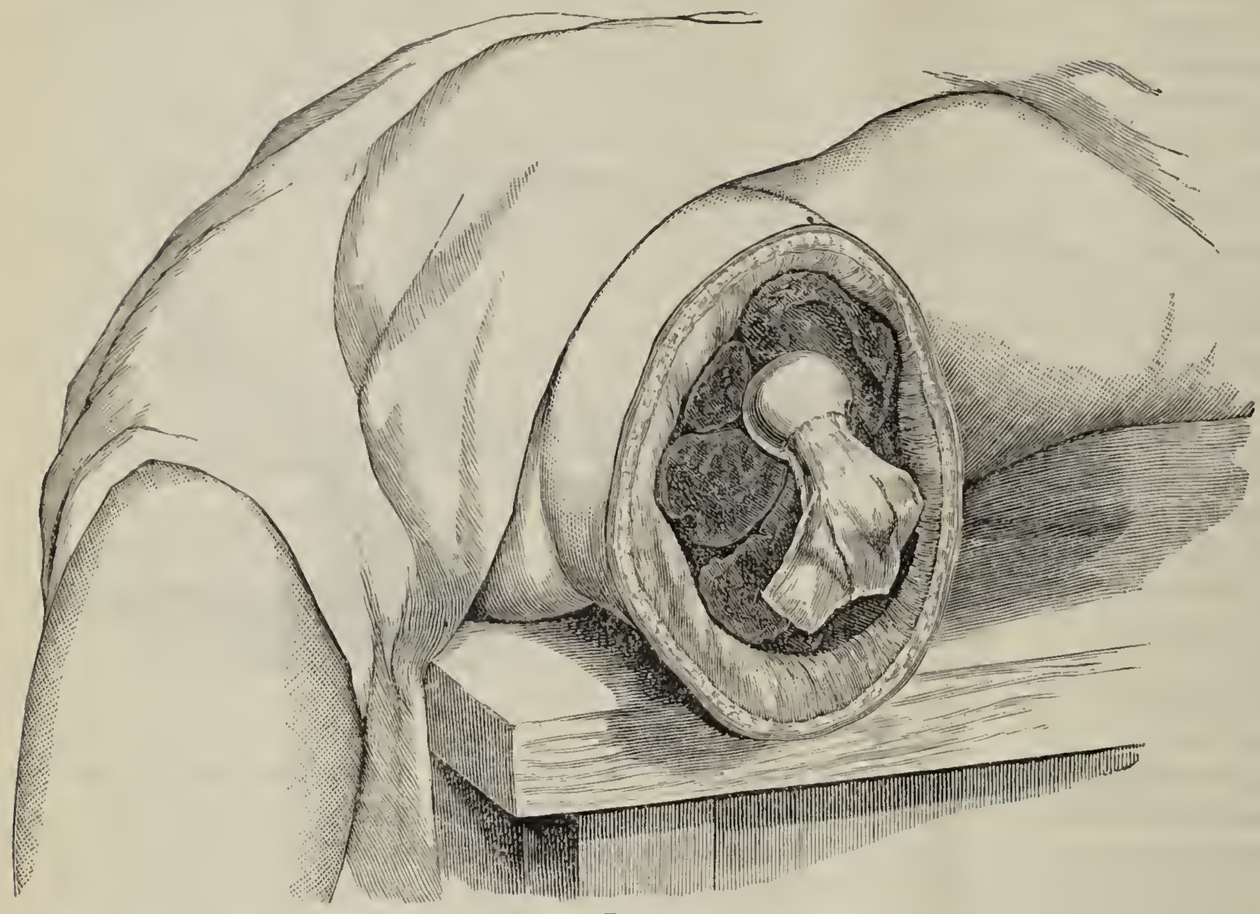

Fig. 3.

Dr. B. F. Curtis thought that Dr. Wyeth's method of controlling hæmorrhage was worthy of note. The great difficulty in this operation was in transfixion before cutting the flaps.

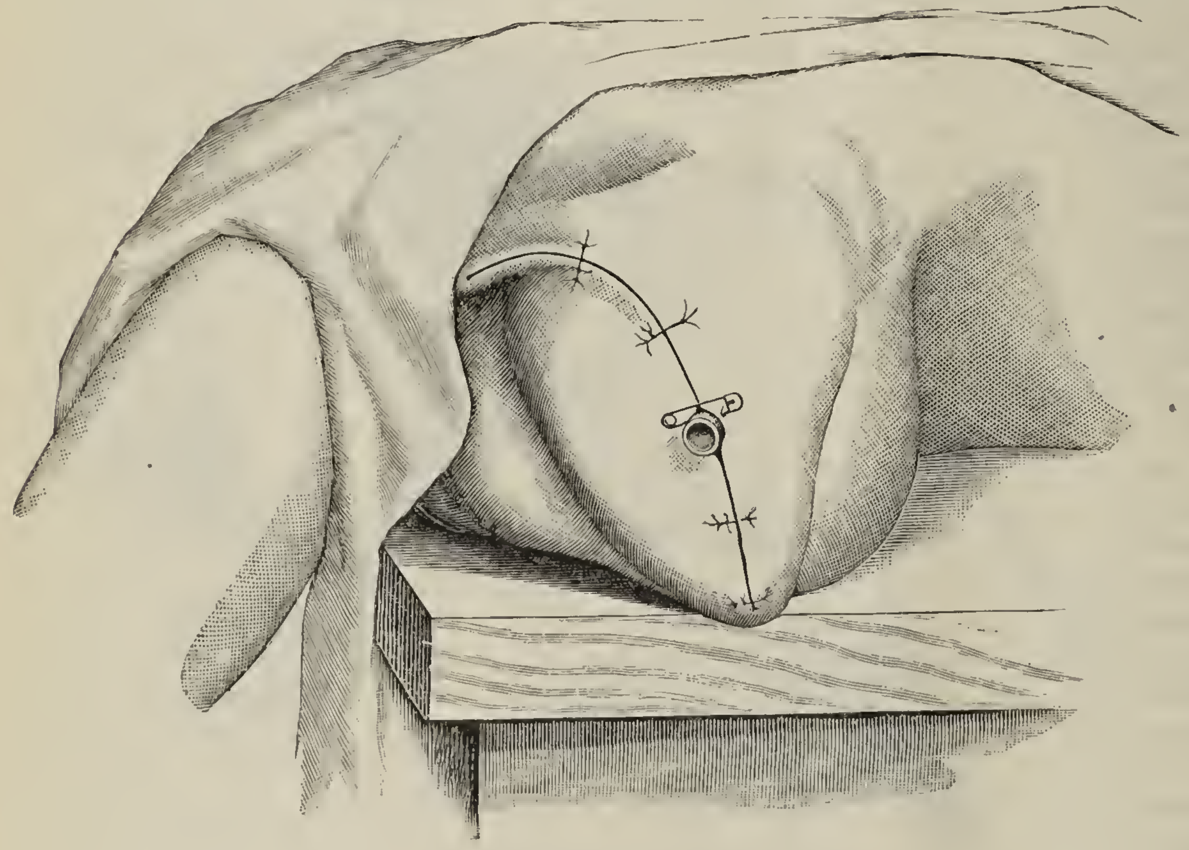

Fig. 4.

There was danger of wounding important structures. He was in the habit now of adopting the method of Furneaux Jordan, who used a rubber band around the thigh and pelvis after the manner of a spica. There was no slipping, and the patient lost hardly any blood. He also thought that the principal cause of delay in this amputation lay in tying the large number of ligatures which were necessary to arrest bleeding in the flap. There was then nothing to do but get out the bone, which did not take long.

Dr. Sayre thought the suggestion for dividing the operation into two sittings was a very valuable one, as was also the method Dr. Wyeth had adopted of draining the medullary canal.

The Chairman indorsed the method of Furneaux Jordan as a means of controlling hæmorrhage.

NEW YORK SURGICAL SOCIETY.

Meeting of February 26, 1890.

The President, Dr. C. K. Briddon, in the Chair.

The Treatment of Fracture of the Patella by Silk Ligature through the Quadriceps Tendon and Ligamentum Patellæ.—Dr. L. A. Stimson presented a number of patients upon whose fractured patellæ he had operated by this method. He explained that within the past fourteen months he had been practicing this mode of operating, having used it in about twenty-five cases. Of the patients so operated upon, he had seen nine within the preceding week, and was now able to present five of these before the society. He was quite aware, however, that a sufficient time had not elapsed in some of the cases to warrant him in offering the results as permanent. It was only possible to recognize mobility of the fragments in two of the cases, and even here it was very slight. In all the others it was only possible to make out the ridge marking the line of fracture. In all of the cases extension was perfect, in most of them flexion was complete, and all the patients were able to use the limbs and engage in their regular occupations. In two of the cases suppuration had occurred; in one of these there had been imminent danger to life, but both patients had recovered. One of these failures was now of a year's standing, the other was of six months'. In the former instance the speaker feared that nothing could be done to restore mobility to the resulting ankylosis, but in the other he hoped to be able to restore a moderate amount of motion. These were the only two cases in which any accident had resulted. He was uncertain as to the cause which gave rise to the untoward results, but was inclined to attribute it to the too early dismissal of [the patient. It had been his habit to retain the first dressing for a week, and then put the leg in plaster of Paris, and send the patient out of the hospital. He had operated by making four punctures above and below the patella and passing a stout silk ligature through them in such a way as to traverse the ligamentum patellæ and the tendon of the quadriceps and pass twice longitudinally in front of the patella. The knot was tied at one of the lower punctures and the skin closed over it. In a large number of the cases where swelling had occurred, the bleeding had been free, the blood coming from the seat of fracture. The field of operation was in direct communication with this site and therein lay the element of danger. Whether the percentage of favorable results would be maintained, only long experiment would determine. He thought that even two cases in twenty-three or twenty-four was too large a proportion despite the good results which had accrued in the balance. Still a stiff joint furnished a better limb than the very lax condition so often resulting in some non-operative methods.

Peritoneal Abscess.—Dr. Stimson then presented a patient upon whom he had operated for the relief of appendicitis. The patient, a young man of twenty-two, had come to the Chambers Street Hospital presenting the usual symptoms leading to a diagnosis of appendicitis. On the abdominal cavity being opened the viscera were found to be entirely free from adhesions and inflammation. The cæcum had presented at once. Below and behind the ascending colon there was a marked swelling extending upward in the same direction. On raising the lower end of the cæcum the appendix was not visible. The cæcum was entirely free in the abdominal cavity. During the manipulation in search for the appendix an abscess sac behind the colon was opened allowing the escape of a quantity of very fœtid pus mixed with gas. Exploration by the finger had failed to quite reach the upper end of this sac. The abdominal cavity was protected by large flat sponges. The cavity was not washed out, but a drainage tube, surrounded by a layer of antiseptic gauze, was inserted and the abdominal wound closed in part only, the unsutured portion being filled with gauze. The patient's temperature had fallen immediately after the operation to the normal point and had so remained. The gauze at the lower angle of the wound was removed on the third day, that about the tube two days later, and the tube was taken out two days after this. Further search had failed to find the appendix, but there seemed little doubt but that it was behind the cæcum in the lower wall of the abscess, at which point there existed considerable thickening. The speaker had brought the case on account of the position of the abscess. It was a question whether it had commenced in the subperitoneal tissue, behind the colon, where this viscus was not covered by peritonæum, and was originally extraperitoneal, or had begun in the appendix and had been originally intraperitoneal.

Dr. C. McBurney said that it had been suggested to him by Dr. Stimson's remarks that one ought to be very careful to avoid reliance upon the apparent arrangement of the parts in any case of intestinal inflammation, when the inflammatory process had already existed for a number of days, as indicating the exact point of origin of the inflammatory process. Dr. Stimson had rather left it open to doubt whether the process in his case had started inside the appendix or outside the peritoneal cavity. If such late appearances were depended on it would put matters back to the position the profession occupied for so many years. He had already stated before the society, and still maintained his position, that with rare exceptions these processes were intraperitoneal. In order to form any accurate estimate as to whether the inflammatory processes began on one side or the other of a delicate membrane, it was necessary to investigate the cases in their earliest phases.

Removal of the Clavicle.—Dr. Murray showed a boy nine years of age, from whom he had removed the inner two thirds of one clavicle, for necrosis following acute osteomyelitis. Very little new bone had been formed; perhaps this process had taken place slightly at the sternal end. Still the boy had perfect use of the arm and shoulder and but very slight deformity, and the case showed a first-rate functional result.

Ligature of the Femoral Vein.—Dr. F. Kammerer read a paper on this subject. (See page 507.)

The President said that four or five years ago he had removed a glandular tumor, situated in the upper and inner angle of Scarpa's space. After dividing the cribriform fascia and trying to avoid, as much as possible, the internal saphenous vein, while making traction on the tumor he had divided this vein close to its junction with the femoral vein. He had made several attempts to apply a lateral ligature. He was able to apply pressure forceps without difficulty, and so arrest the hæmorrhage, but every time he applied the ligature it had slipped off, and he was compelled to pass an aneurysm needle under the femoral vein and ligate it at two points. Recovery was uninterrupted. There was no doubt about the needle having passed between the artery and vein, as the pulsation of the former could be distinctly felt.

Dr. A. G. Gerster said he would like to mention one case out of three which had come under his observation, in which the common femoral vein had to be occluded by ligature. In the first case he had been called when the patient was almost exsanguinated. This case had ended fatally. In the second case ligature of the femoral vein was followed by cyanosis of the limb and extensive œdema, but ultimately the patient had recovered. Not long ago, while he was attempting extirpation of a periosteal sarcoma, occupying Scarpa's triangle and extending into the pelvis, in trying to free the tumor from the femoral vein, which was involved by the growth, the vein was injured. A gush of blood had followed, which was checked by the finger. A double ligature was applied, one below and the other above the tumor; the latter ligature was around the external iliac vein. This did not check the hæmorrhage. A long strip of iodoform gauze was then stuffed into that portion of the vein between the two ligatures, and the dressings were secured by a spica bandage. In this case cyanosis was well developed, but disappeared within five or six hours. The patient had made a perfect recovery. The tumor was not enucleated. The packing was removed three days afterward from the vein, and the size of the rent could then be made out. The speaker had applied lateral ligatures a number of times, but to the deep jugular only, which he had happened to injure in the extirpation of deep seated tumors. Then it had answered admirably, but whenever the shape of the rent was elongated it had slipped off. He thought the danger of deligation of large veins, both of the upper and lower extremity, had formerly been much exaggerated.

Dr. J. A. Wyeth said that he had not met with a case in which he had found it necessary to put a lateral ligature on the femoral vein, though he had done so a number of times upon the internal jugular and axillary veins. In a recent case in which a large gôitre was removed he had been compelled to place two lateral ligatures on the left internal jugular. The patient had made an uninterrupted recovery. He took issue with Dr. Gerster as to the immunity from danger. There was a difference between the axillary and femoral vein. In the former case pressure was relieved at once through the cephalic, while in the case of the common femoral there was no such well-marked route for return circulation. Still he believed the danger had been overestimated.

Dr. Gerster said that the danger was much greater when a vein had to be deligated in which there had been no pre-existing tumor tending to lessen its caliber.

Dr. McBurney said it was often extremely difficult to handle such cases on account of the bleeding, and he was inclined to advocate the adoption of temporary measures which would insure the patient immunity at least from that danger and enable the surgeon to command the field of operation. He would advise the use of a temporary ligature to the vein, above and below, treating the wound as one of the intestines, thus shutting off the circulation and facilitating the application of the lateral ligature and escaping the undesirable complete occlusion.

Arterio-venous Aneurysm of the Arm.—Dr. Kammerer presented a man with an arterio-venous aneurysm of one arm. The condition had gradually supervened upon a pistol-shot injury sustained twenty-five years ago. Some operation had been performed upon the arm, possibly with a view to ligate an artery, but in this matter the history was obscure.

As the case presented special points of interest and there existed considerable uncertainty as to the exact route of the blood-supply to the aneurysmal sac, Dr. Stimson, Dr. Lange, and Dr. McBurney were designated a committee to make a more careful examination into the conditions. As the result of the examination of Dr. Kammerer's patient, it was stated that the man had a large mass occupying the inner aspect of the arm, and on the outer aspect there was the dilated tortuous cephalic vein receiving blood by a current from the median basilic and median cephalic; that this mass of dilated veins extended into the axilla; that there was a superficial artery on the inner side of the arm corresponding to the brachial artery, pressure on which, however, did not arrest the pulsation in the mass referred to, and therefore was not a direct factor in the condition. Pressure at site of the scar, and for an inch below it, would arrest the pulsation in the dilated veins on the anterior portion of the arm. The radial pulse persisted in spite of such pressure. The point of communication between the artery and vein was within a very short distance below or immediately at the site of the scar. It was impossible to say what had been done at the time of the operation referred to, or how the main arterial circulation was carried on.

Dr. B. F. Curtis narrated a case, and presented the specimen, of an aneurysmal varix of the popliteal space, removed by dissection from a man of twenty-eight years of age who had been wounded near Hunter's canal by a pistol bullet which had never been extracted.

Miscellany.

The Trip to Nashville.—The Chesapeake and Ohio Railway announces a "doctors' train" from New York to Nashville and back for the meeting of the American Medical Association, at $34.20 for the round trip. The tickets will be good on any train, but the train in question, consisting of Pullman vestibule sleeping-cars, will run on the following schedule:

Leave	New York,	Penn. R. R.,	5.00 P. M.,	Sunday,	May 18th.
“	Newark,	“	5.27 “	“	“ “
“	Trenton,	“	6.50 “	“	“ “
“	Philadelphia,	“	7.40 “	“	“ “
“	Baltimore,	“	10.00 “	“	“ “
Arrive	Washington,	“	11.05 “	“	“ “
Leave	Washington,	C. & O. R'y,	11.25 “	“	“ “
Arrive	Clifton Forge,	“	6.50 A. M.,	Monday,	“ 19th.
“	Huntington,	“	2.10 P. M.,	“	“ “
“	Lexington,	L. & N. R. R.,	6.00 “	“	“ “
“	Louisville,	“	9.30 “	“	“ “
“	Nashville,	“	6.50 A. M.,	Tuesday,	“ 20th.

Ocular Complications in Influenza.—"In the February number of the Recueil d'Ophthalmologie, Dr. Galezowski describes two forms of ocular affection which have been seen by him. In the one the conjunctiva is alone attacked, and the symptoms usually come on at the commencement of the disease. There is pain around one eye, and the lids feel heavy and tend to droop involuntarily, as if the patient were sleepy. Lacrymation and photophobia are frequently present, and the vision fails after a few seconds on attempting to read. In the morning the lids adhere, but there is not much secretion. The vessels of the sclerotic are distended, but the pupil acts perfectly. The author attributes these symptoms to neurosis of the fifth nerve. The other class of cases presents a more serious complication, for in it the cornea becomes superficially ulcerated over a large area of triangular shape, the base being toward the circumference, and the apex reaching to the center of the cornea. The ulcerated area becomes completely anæsthetic, while there is hyperæsthesia of the adjacent corneal tissue. The ulcer tends to increase in size but not in depth. The complication appears late, often during convalescence; the prognosis appears to be favorable. This complication would also seem to be due to some abnormal condition of innervation."—*British Medical Journal.*

ANSWERS TO CORRESPONDENTS.

No. 318.—Statistical data pertinent to the question are not accessible to us, but we think it may be said that the theory has not been acted on long enough for any inference of value to be drawn from such a comparison as you suggest.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

LECTURES ON SOME POINTS IN THE TREATMENT AND MANAGEMENT OF NEUROSES.

DELIVERED BEFORE THE
MEDICAL SOCIETY OF THE UNIVERSITY OF TORONTO,
March 11 and 12, 1890.

By E. C. SEGUIN, M. D.,
PROVIDENCE, R. I.

Lecture II.

(*Continued from page 454.*)

Another instructive consideration in approaching the question of the proper diet of nervous patients lies in what we now know of alcoholism and the almost exclusive use of rice (starch) as food. These hydrocarbons, taken in excess continuously, give rise to a very peculiar, easily recognized disease—viz., multiple neuritis, or multiple degenerative neuritis. We constantly see sporadic cases of this sort in persons who have reduced their solid healthy food to a minimum and have lived on alcoholic beverages. In some persons no very great quantity of alcohol is needed to set up the diseases, provided that it has been used steadily day after day in *relative* excess. We ignore the *modus agendi* of alcohol in setting up inflammatory (?) changes in the cylinder axes and segmental degeneration of the myelin in a large number of cerebro-spinal nerves in the same subject. Probably it is a toxic action exerted through the blood and lymphatic channels. Though endemic multiple neuritis, affecting large numbers of persons in one country, or town, or on a ship (so-called beri-beri in India, China, and South America; kakki in Japan) may be caused, as some think, by a special poison (microbic?), there can be no doubt as to the influence of exclusive rice diet. This has been proved in Japan, where, in the last six years, the reduction or omission of rice from the dietaries of the army and navy and of penal institutions (bread being substituted) has almost eradicated the disease, which had assumed enormous proportions up to 1884.* In 1886 I published three cases of beri-beri † developed in Cuba, Central America, and Para, in Brazil. My Para patient, a very intelligent merchant, told me that in his family, as in others of well-to-do and of poorer people, rice was eaten in various forms, from liquid to solid, five times a day; it was the staple food. That something besides the rice is required to produce beri-beri is indicated by the fact that the disease first appeared in Brazil as late as 1864, and was traced by some people to the use of rice imported from China.

Still, it is a most important and interesting fact that an abuse of carbonated food or drink may give rise to an inflammatory or degenerative affection of nerves widely spread throughout the body, and sometimes fatal by involvement of the pneumogastric, phrenic, and intercostal nerves. Admitting this, how can we escape the conclusion (which I firmly believe to be just and applicable to our daily practice) that a lesser abuse of the same substances (starch, sugar, and alcohol) must cause malnutrition and irritation of the nervous system, with, in some cases, slight neuritis? (Some cases of neurasthenia and of neuralgia exhibit symptoms which can be best explained by admitting a mild and restricted neuritis of one or several nerves.)

These considerations—viz., the neglect of and distaste of nervous patients for fats and water, the frequent presence of oxaluria in the same patients, the evil effects of the exclusive use of starchy and alcoholic substances, besides the theoretical chemical explanations included in the modern doctrines of oxaluria and lithæmia—have led me to the adoption of the following rules of diet for nervous patients in general, but more especially for sufferers from neurasthenia (not, of course, in cases in which an evident peripheral or accidental cause exists), neuralgia, and nervous dyspepsia:

1. The use of much water, at least three pints a day, not including the black coffee at breakfast. Good common water will do, but you can secure obedience better by ordering a mild medicinal water—as Apollinaris, the Buffalo or Londonderry lithia waters, Poland Spring water, the Giesshübler of Carlsbad (not laxative), etc. Some water should be used with the food, but the best time to take a tumblerful is between three and four hours after meals. The water then helps to clear the stomach of remnants of the meal, besides furnishing the liquid required by the blood and tissues. In some cases, where subacute or chronic gastric catarrh exists, it is best to order hot water, to be taken as above stated—part with food, part four hours after. Undoubtedly, the Salisbury system had a partial scientific foundation, both as to the exclusion of starchy foods and the free use of water. It is, however, a ridiculous and often injurious practice as usually carried out.

2. I take every opportunity and use every artifice to make most of my nervous patients eat fatty food: pork, fat of roast beef, butter, cream, cod-liver oil. Many of them fight against this direction, but you must insist, and speak of it as a strictly medicinal matter; you order an extra quantity of butter, or cold pork, or cod-liver oil as medicines. Usually the patient yields, and in a few months becomes quite reconciled to his diet. In many persons this dislike for (and supposed inability to digest) fatty substances is due to nothing except a bad example set in early life by some parent or other relative. The expression, "Oh, I can't bear" that, or "I can't eat" this article of food is quickly caught up by the child, and by association and habit (repeated hearing and witnessing) grows into a firm belief that the article of food is bad or that he can not digest it. Many persons imagine that they can not take cod-liver oil, yet ninety out of a hundred are laboring under a delusion. I insist on a trial, sometimes only at bed-time, beginning with a teaspoonful, which is to be gradually increased to a tablespoonful, or even two. Emulsions I almost never prescribe; the phosphates, etc., with which the oil is mixed being inert. Some emulsions which contain other

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* B. Scheube, in Deutsch. Archiv f. klin. Med., xxi, p. 141; xxii, p. 83.

† Notes on Three Cases of Tropical Beri-beri, Phila. Med. News, Dec. 18, 1886.

definite remedies—quinine, iodine, etc.*—I occasionally order, but I much prefer to have the patient take the pure oil (the purest, clearest oil), and to give the remedies separately in sufficient doses. A good way to take cod oil is to float the dose on a little iced water. Chocolate and lemon-peel are the best substances to remove the taste. Whisky should never be given simply to make the oil more desirable, only when a clear indication exists for the use of alcohol. The time relation between the dose of oil and meals is immaterial. I usually allow the patient to please himself, though often it is better borne after food.

The use of fat pork is a fair substitute for cod-liver oil, and some patients who will not overcome their prejudice against the oil will learn to like the pork. The idea is not mine; it originated with a country practitioner whose name I have never been able to learn. I stumbled on the suggestion a good many years ago, and have been well pleased with it. The patient is directed to select a square piece of salted side of pork, extra thick, and solid, with almost no lean. This should be boiled not too long, and laid away in a cold box. To use it: Day after day very thin, even, neat slices are cut from the cold piece by means of a very sharp carving knife. This had better not be done before the patient, but the pieces (six to eight) brought to him attractively dished. A slice is to be laid on one very thin slice of dense (home-made) bread, seasoned sharply with salt and pepper, or, according to taste, with mustard or Worcestershire sauce. There should be very little bread. The dish may be used two or three times a day.

Butter is willingly eaten by most patients in extra quantities, say two ounces with each meal. Cream is another substitute for cod-liver oil, but this, as well as milk (*vide infra*), I prefer to give between meals.

It may be asked, if the purpose is to provide fatty substance for the better nutrition of the nervous system, or of the system generally, why not make use of those other well-known fat-making substances, sugar and alcohol? The reason is, I think, evident. Oil, butter, cream, and fat of meats are ready for the processes of emulsion and of intestinal digestion. Alcohol and sugar (starches still more indirectly) require to be transformed into fat by complicated chemical actions within the body. This process is defective in many nervous patients, or, if not defective, it constitutes a drain on the patient's resources. It is an intimate organic strain. The excess of carbon goes to make up oxalic and lithic acids, and thus the patient is injured.

3. In many nervous cases I greatly reduce the amount of starchy and sweet foods, partly to save chemical labor and render full oxygenation more easy, partly because in many cases there is actual oxaluria or lithæmia. In these cases it is not at all necessary to restrict the patient as closely as in well-developed gout or diabetes. The so-called Salisbury plan, while it affords immediate relief to many symptoms, is unnecessary, absurd, and even injurious in most cases. If you consider the habitual dietary of Americans you will see what an excessive amount of starchy food is used daily. At breakfast there is of course bread (often of an indigestible kind), oatmeal or wheaten grits, in many families potatoes with the meat, and sometimes buckwheat or other cakes, or fried hominy to be eaten with syrup or sugar at the close of the meal. The nitrogenous food is usually eaten sparingly or not at all. In such a breakfast, watered with a sweet mixture of very weak coffee, milk, and sugar, what a capital "mess" for fermentation we have in the stomach! Eructations, sometimes tremendous in volume, are first results of such a breakfast, but the more serious evils are developed later and deeper, as results of very imperfect oxidation of the carbon of this "mess." Then for dinner and supper starchy food is used, even if not excessively. We again find potatoes (in many families three times a day), cakes, puddings, pies, etc., make their appearance. Supper is in many American families a meal well calculated to develop flatulent dyspepsia and oxaluria. Often no meat is on the table, but bread and butter, preserves, cakes, oysters, and tea or "coffee." Even in better-informed families, where some form of nitrogenous or animal food is used at each and every meal, there is usually, I believe, a relative excess of starchy and sweet elements. One of the worst things in the popular dietary is the eating of an orange or two before breakfast. Here is a quantity, from two to three ounces, of sweet-acid liquid introduced into the empty stomach. It hinders the free flow of gastric juice (this is an inference from the well-known opposite effects of alkalies and acids on the production of gastric juice). Then in cases of lithæmia, oxaluria, and nervous dyspepsia this drink is of such a nature as to increase the formation of oxalic acid. I wish that physicians would everywhere exert their influence to banish this custom—which is a misunderstood transplantation of a Cuban custom (Cubans take only coffee after their morning fruit, and do not eat breakfast until eleven or twelve o'clock), practiced nowhere else in the civilized world—from among our people. The only physiological preliminary to breakfast, in my opinion, should be a glass of water, of ordinary temperature for healthy persons, and hot for dyspeptics.

I make the necessary reduction in starchy and saccharine elements in my patients' diet by directing as follows: The breakfast coffee to be taken without sugar or milk; potatoes (both kinds) to be wholly excluded for three or four weeks, then resumed moderately, three times a week or once a day. Oatmeal, "grits," and similar cereals should also be absolutely suspended for a while, and then resumed in small quantities—for example, one tablespoonful of good oatmeal with much cream *after* breakfast. This last is an important point. Usually people eat (at breakfast) the starchy food first; then, if any appetite is left (which is not always), the meat or eggs are proceeded with. The best food, the most necessary for the nutrition of the body, that needing a free outpouring of gastric juice, and that digested with least chemical waste—beef, mutton, poultry, game, eggs, and fish—should be eaten first and chiefly. Bread I almost always reduce, advising stale or well-toasted bread. I am not a partisan of fancy breads, except in some cases bread containing the bran; the best bread for me is the whitest, lightest, and best cooked.

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* I also make an exception in the case of Savory and Moore's pancreatic emulsion (English), which has proved very acceptable to patients and beneficial. I usually give a heaped teaspoonful of it mixed in a large cupful of hot, rich milk between meals and at bed-time.

Desserts of all kinds I reduce also, by cutting off the worst, *i. e.*, the most starchy, leaving raw or stewed fruit, plain ice cream, and nuts. Even these, as in the case of bread, should be used in smaller quantities than is usual. In some cases acid fruits must be forbidden.

When I have thus sketched out a moderate diet-list, the patient usually exclaims: "Well, doctor, what shall I eat with my meat? You have cut off my vegetables." The potato habit has become so developed in this country that numbers of people rarely eat other vegetables, and know only a limited number of the numerous non-starchy or slightly starchy vegetables furnished us by Nature. I often reply: "How did your ancestors get along, as we have known the potato only about a century?" I attach a *positive* value to green foods, and consequently urge my patients to eat freely of spinach and other "greens," string beans, celery, asparagus, beats, turnips, cauliflower, lettuce of various sorts, cucumbers, and tomatoes (not in oxaluric patients). Cabbage and onions are non-starchy articles presenting the peculiarity of being more digestible raw than when cooked. Peas, rice, and corn I place in an intermediate grade (with bread), to be used sparingly. By a little study of the market and by using canned articles (the best grades of which are, I believe, perfectly healthful) the patient's anxious question can be answered, and he need not suffer from want of variety. Condiments and pickles I seldom prohibit; and it has been an old form of compact between young lady patients and me that they can have pickles occasionally if they will give up candy.

Soups are usually indigestible, but I allow plain bouillon. It may have some nutritive value in itself, but it also increases the output of gastric juice.* Meats, fish, and eggs should be cooked in a simple way, by boiling, roasting, or very quick dry frying. Gravies and sauces are among prohibited articles, but I have not found a light dressing of oil, vinegar, salt, and pepper on a salad to be injurious (lemon juice may be used in place of vinegar). The mixed salads served with a mayonnaise sauce are bad, though the chicken and even the plain lobster meat are digestible.

In many nervous cases, and in all where dyspepsia is evident, I furthermore advise that simple processes of cooking be used, chiefly roasting and broiling for meats. Some forms of frying are not objectionable, providing the fat is kept out of the flesh (fish) by a protective "batter" which is to be removed. Also, I try to induce patients to eat simple meals, partaking freely of two or three articles only. A "course dinner" is not over-good for healthy stomachs, and is certainly bad when dyspepsia exists.

Stimulants are usually injurious to neurasthenic, neuralgic, and lithæmic persons, who are very susceptible to their effect, a teaspoonful of whisky or brandy sometimes causing much distress. In a few selected cases I allow one glass of good claret or a tablespoonful (measured out as medicine) of whisky with one or two meals. The practice of taking "a teaspoonful or so," as the patients say, of brandy or whisky when they feel weak or badly, or just before eating, to give them an appetite, I am strongly opposed to, and oblige my patients to cease the practice, which is often set agoing by careless medical advice.

You understand that the foregoing is a scheme for a moderate or normal diet; it will agree with nearly every one. I live mainly so, except that I am able, when I wish, to digest some dessert and more stimulant.

Cases with prominent dyspeptic symptoms call for various modifications of this diet, and, of course, the oxaluric or diabetic state requires a specially restricted dietary.

In framing diet-lists for your patients (and I beg leave to assure you that it brings reward to give thought and time to do this and to do it always in writing) pray bear in mind the facts, as I believe them to be, that most people eat too much carbonaceous food; that dyspepsia, lithæmia, oxaluria, gout, and diabetes are cousins if not brothers; and, lastly, that you are devising a diet for the patient before you, and must therefore also bear in mind his idiosyncrasies and, to a certain, extent what he tells you of his experience with respect to individual articles of food. Yet you should not follow his statements blindly, because they are open to many sources of error, or the patient may wish to mislead you because he dislikes some of the foods you want him to use.

As regards milk diet, I must refer you to the books and to recent articles on the more digestible preparations of milk. One thing I should wish to strongly impress upon you, and that is the undesirability of taking milk with solid food. It may do for a strong person who has unusually good digestion. The milk, in reality, is an addition to the nitrogenous part of the food, and its casein calls for an extra allowance of gastric juice. I often give a glass of milk between meals and at bed-time. In some cases of oxaluria and lithæmia, one or even two meals may be made to consist wholly of good milk—one quart drank *slowly* in the course of an hour. The addition of a small pinch of bicarbonate of sodium and of salt to each glassful is good; and one very thin, light cracker may also be allowed to each glassful in some cases.

A most extravagant practice sprang up a few years ago with respect to the diet of epileptics. Some one proposed (and readily found followers) to feed epileptics on farinaceous and vegetable food, animal food being thought to be an excitant and favorable to convulsions. This fad is passing away, I am glad to say, for there is nothing in it. Many a case has come to me aggravated after a trial of this diet and careless bromide treatment, and great improvement followed the resumption of a moderate normal diet, with systematic medication. I have, however, one rule with respect to the diet of these patients—they should eat a light evening meal (a milk meal, or a little animal food), but never eat before retiring. It is generally admitted that going to bed with a full stomach is very provocative of nocturnal or matutinal seizures. I fail to see the philosophy of depriving epileptics of animal food, since it gives strength and increases (normal) nerve power. *A priori* I should expect a starchy diet to cause nervousness by the setting up of oxaluria and lithæmia.

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* Herzen, La digestion stomacale, p. 121.

I might as well here refer to the rest of the hygiene of epileptics. I aim to restrict them as little as possible in respect to food, amusements, and occupation. The reduction in these should be mainly quantitative, in my opinion. Thus I allow many of my epileptics to go to sociables, theatres, and even quiet parties, but I make sure that they are in bed by 11 P. M., or at latest, once in a while, by midnight. Before going to any such amusement they are to take a little extra bromide. School work is no doubt too much for most epileptic children, but, on the other hand, idleness is also bad; so I usually allow from two to four hours of study, or private teaching, in different cases. Play involving violent exertion (ball, tennis, running games, etc.) I forbid. In general it may be said that a monotonous, moderately busy life is the best for an epileptic. The good effects of monotony or regularity of living, combined with quiet, is well shown by the remarkable remissions which sometimes occur, without medication, after an epileptic has been received into a hospital or asylum.

A question which has puzzled the minds of the ablest physicians is how to supply the nervous system with the phosphorus and phosphates which form so striking a proportion of its composition (93·57 per cent. of the brain-ash). The market is flooded with phosphates, hypophosphites, and cerebral derivatives with high-sounding names, yet we have no experimental or good clinical evidence that any of these preparations are assimilable. Phosphorus, I believe, should be given pure, in the shape of solution in alcohol and glycerin (Thompson's solution, or tinct. phosphori, ʒ j = $\frac{1}{20}$ grain (0·003)), or dissolved in oil (oleum phosphoratum), or as pil. phosphori. The pills in the market give altogether too small doses of phosphorus, which should be administered in doses varying from $\frac{1}{60}$ of a grain (0·001) to $\frac{1}{20}$ (0·003), three times a day—the oil and pills after food, the tincture (diluted, if necessary, with glycerin) on an empty stomach and without water. Food, however, conveys an appreciable amount of phosphorus into the system in a naturally assimilable state.

About the pleasant indulgences of life—the use of tobacco and sexual intercourse. I am not rigid or dogmatic on this point. Many of my nervous patients are not at all injured (retarded in recovery) by the use of one mild cigar a day; the cases are rare, I believe, where we must make the patient give up tobacco absolutely. The sacrifice is very great, you must admit, and we should not demand it except for the strongest reasons. As regards sexual intercourse, I never, under any circumstance, advise it to young men as a remedial or sanitary measure. The considerations which led me at the beginning of my practice to adopt this rule are complex, but to me of absolute force. It is said that continence causes nervous symptoms, but I must say, gentlemen, that I do not believe that this is so, unless the patient's imagination has been already perverted, or where bad practices have been established. In married patients I follow the same rule as for tobacco—viz., enjoin great moderation; indulgence two or three times a month. You can soon determine in such patients whether the act is injurious. Very often, however, I advise the use of separate beds. This is partly to secure the patient against jostling or annoyance by the snoring of the companion, though also to prevent involuntary and ungratified sexual excitement, which I consider as particularly exhausting. Many patients with insomnia are at once benefited by having the exclusive use of a large bed. The two beds may be in one room in cases where the nervous person is afraid to be alone. I should add to what I have said of tobacco that, besides reducing your patient's allowance, it is desirable to prevent him from going to and staying in places where he must inhale much smoke (club-rooms, etc.).

(To be concluded.)

Original Communications.

THE QUESTION OF WHAT PRODUCES AND WHAT PREVENTS ANKYLOSIS OF JOINTS.*

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To determine the question of whether prolonged fixation of a joint would result in ankylosis of it, I performed a series of experiments in the Loomis Laboratory last winter, assisted by Professor W. Gilman Thompson and his assistant, Dr. J. C. Cardwell. The result of these experiments will be found published in the researches of that laboratory for 1890, and from which I desire to quote:

"It has been taught that if a normal joint is fixed immovably for a certain length of time, ankylosis will certainly result, and that motion is necessary to preserve the normal integrity of the joint; that an inflamed joint will become ankylosed if it is not moved. Our text-books on surgery are filled with notes warning against prolonged immobilization in the treatment of fractures, or of inflamed joints, in cases where immobilizing appliances are used, lest ankylosis result. It was these, to my mind, erroneous propositions which led to the experiments above referred to. Four dogs were selected and their limbs immobilized.

The difficulty of keeping the limbs of animals lashed in one position for a long period, together with the possibilities of disease and excoriations, will, I think, be apparent to all.

Dogs are quite liable to contract mange and infect the other animals, necessitating their immediate removal. And then they do not bear confinement well in a cramped, unnatural position. However, with all of these difficulties to overcome, we succeeded in keeping one dog six weeks, one dog three months and a half, and two for five months, lacking one week.

The first dog, killed at the end of six weeks, was less than one year old. He had been dressed in the following manner: Under ether, the hind leg was carefully enveloped with cotton batting. Over this was applied a roller and a plaster-of-Paris bandage, the leg being held in a straight position until the plaster became hard. The body of the dog was now similarly dressed with the cotton batting and roller. A few turns of the plaster-of-Paris bandage around the body, finally including the leg, which was drawn well up over the back of the dog, completed the work of immobilizing. (See Fig. 1.)

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* Read before the Medical Society of the State of New York, February, 1890.

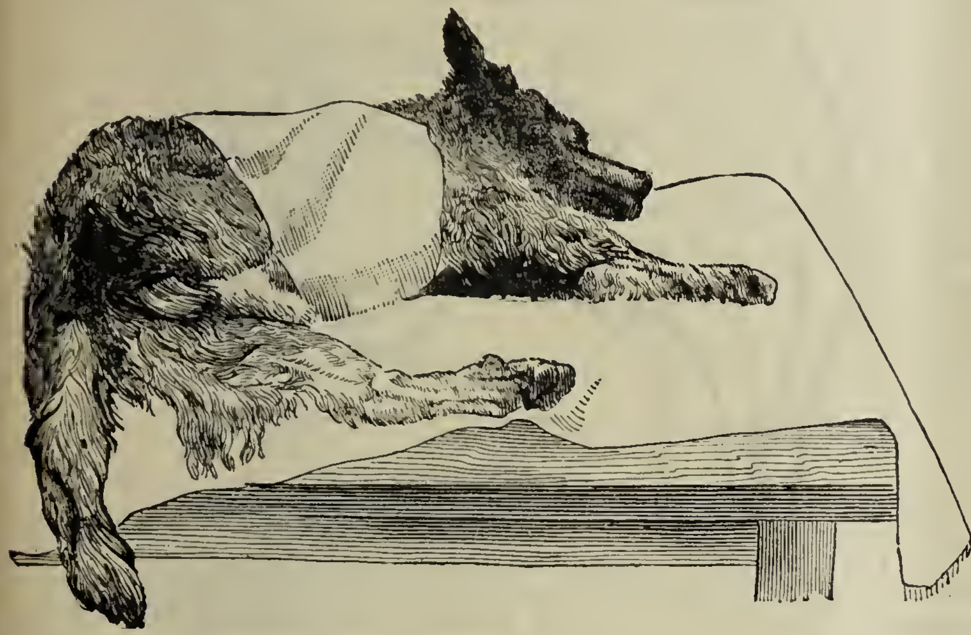


Fig. 1.

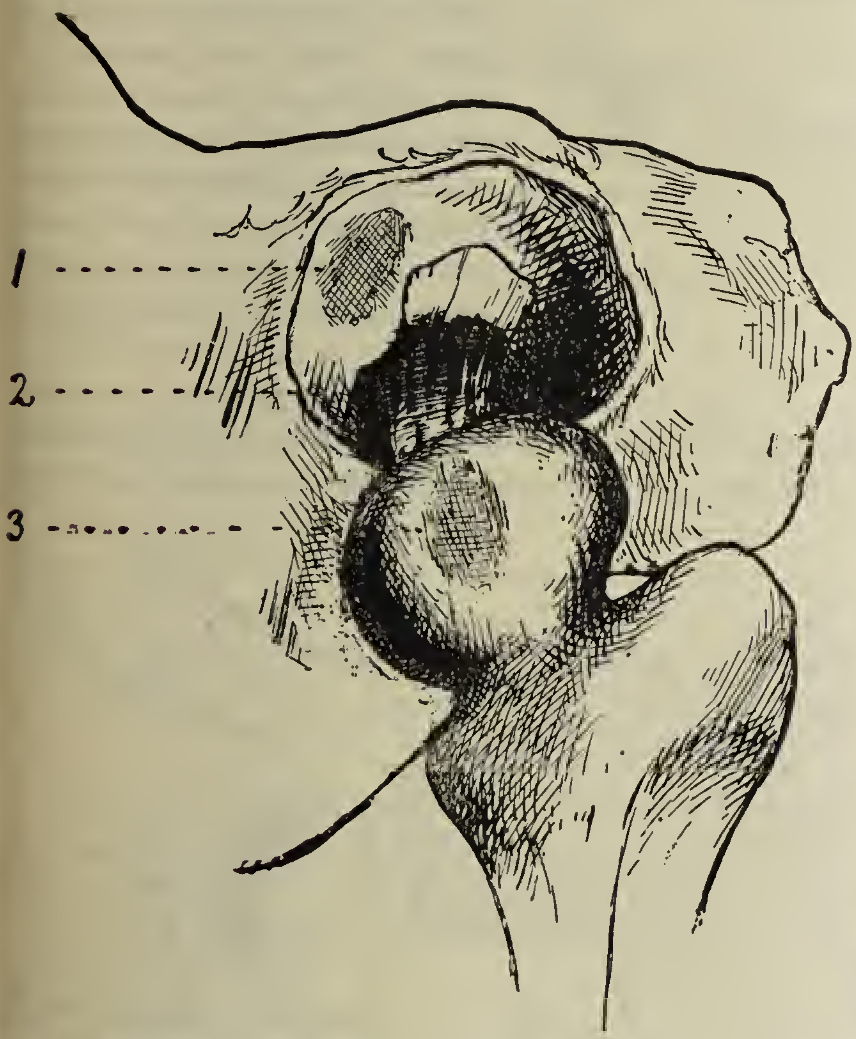


Fig. 2.—1. Congested spot in acetabulum. 2. Ligamentum teres. 3. Congested spot on head of bone which rested against 1.

This secured the hind leg to the plaster cast, which was closely fitted to the body, making dog, cast, and leg one piece, as it were.

The leg, being drawn up over the back in this intentionally cramped position, induced considerable intra-articular pressure at the hip joint by putting the muscles and ligaments upon the stretch, the leg being used as a lever.

The dog did very well for a few weeks, there being but slight rise of temperature, but at the end of the fifth week he refused to eat, and began to emaciate. A week later, on the forty-second day, he was killed. An excoriation, due to pressure, was found below the knee upon removing the dressings. This accounted for the loss of appetite, as much pain must have been induced.

The ankle and knee joints were normal in every respect.

Upon opening the hip joint, however, the normal amount of synovial fluid escaping, a dark congested spot was found on the head of the bone, which corresponded to a similar one in the acetabulum, marking the points of contact between the head and the socket. There was also a dusky appearance of the entire head of the bone and the ligamentum teres, closely resembling the congestive stage of inflammation.

The synovial membrane was normal. (See Fig. 2.)

A section was made of the head of the femur, and another which divided one of the halves again into two equal parts, the cut passing through the congested spot. (Fig. 3, 5–5.)

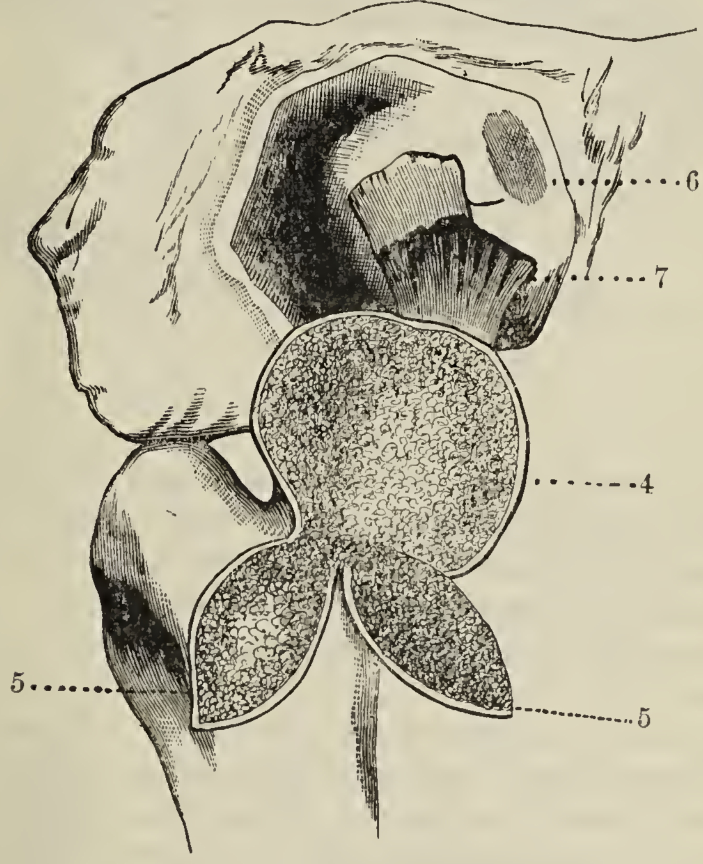


Fig. 3.

See Fig. 3, which was drawn on a block (reversed by mistake) and photographed.

Immediately underneath the cartilage and extending to a considerable depth into the head of the bone the cancellated structure was deeply congested (4), due to the meshes of the bone being filled with coagulated blood. The center of the head, however, was of a lighter color, and to the eye it appeared normal.

This light streak in the center of the bone grew lighter and wider as it extended toward the ligamentum teres, which was due probably to a more perfect circulation of blood and better nutrition than exists in the more peripheral portions; 6 is the congested spot in the acetabulum. Dr. J. H. Linsley made a section of the bone for microscopical examination, but during the decalcifying process, which was necessary before sections could be made, the coagulated blood was washed out of the interstices, and the specimens presented nearly the normal appearance microscopically.

I neglected to state that the muscles of the leg were considerably atrophied.

The other three dogs were treated similarly to the first, only the fore leg was substituted for the hind leg. The fore leg is easily secured to the body immovably with plaster of Paris, and the dressings are not so likely to become filthy as when the hind leg is used. To prevent the dogs from gnawing the dressings away, which they would surely do if allowed, the plaster-of-Paris bandage was carried forward on to the neck, making a stiff collar, which kept the heads always to the front. (See Fig. 4.)

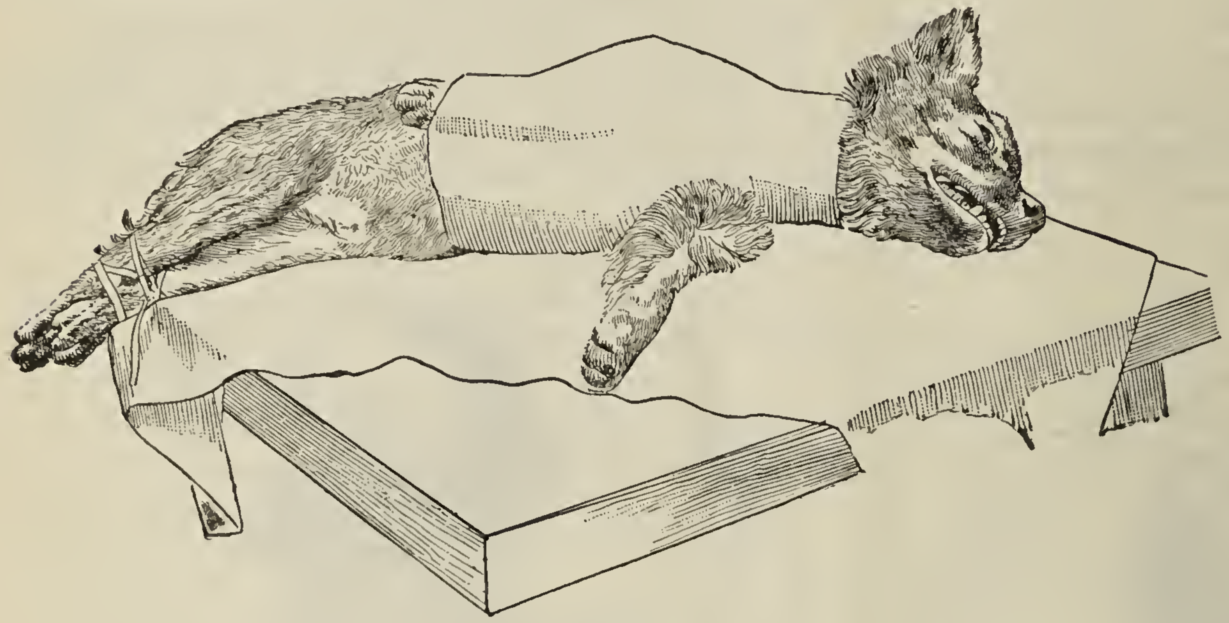


FIG. 4.

This precaution will be found useful in other kinds of experiments to prevent dogs from using their teeth upon dressing or apparatus.

Dog No. 2 was killed at the end of three months and a half. Every joint presented a perfectly normal appearance. Where the head of the humerus rested against the glenoid cavity there appeared to be a little deeper bluish hue of the articular cartilage.

There was more atrophy of muscles than in dog No. 1 as compared with the opposite limb.

Dogs Nos. 3 and 4 developed mange, and were killed at the end of the fifth month, lacking one week (one hundred and forty-five days). The joints were all normal, as in specimen No. 2. A section of the bones was made. Their structure presented no abnormity.

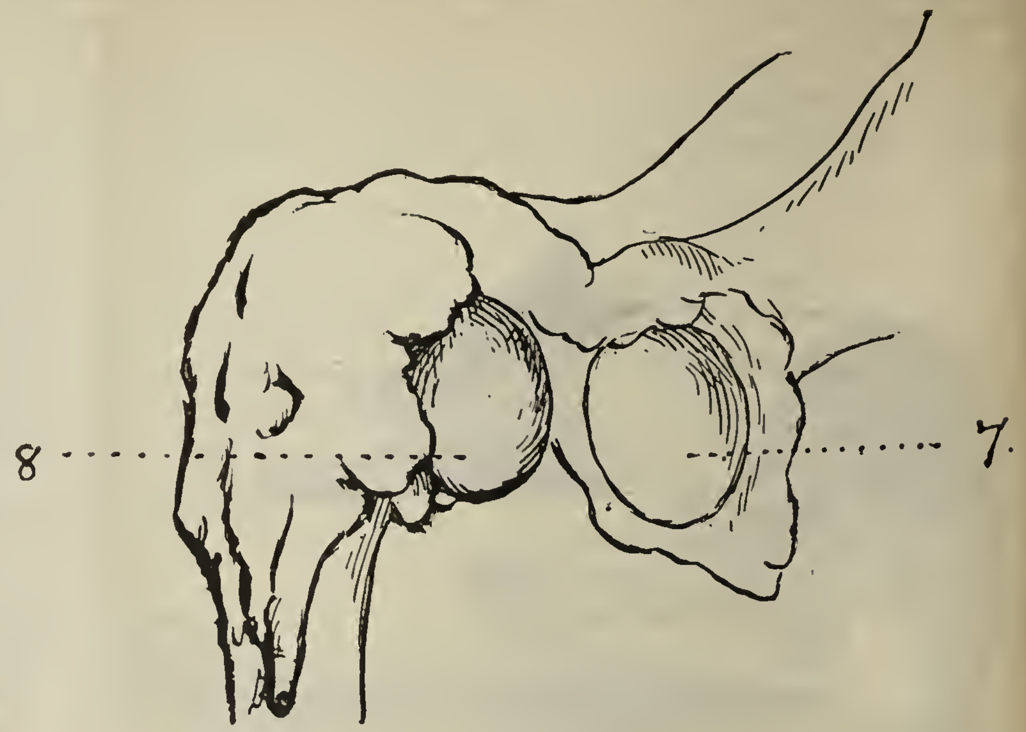


FIG. 5.

See Figs. 5 and 6, from one of the dogs; 7 and 10, glenoid fossa; 8 and 9, head of humerus. In all of the joints the normal amount of synovial fluid was present and of proper consistence. This was evident by comparing it with that of the joints which had not been immobilized, as the dogs were allowed to run about on three legs. The muscles were very much atrophied. After the removal of dressings free motion of the joint was apparent, it being restricted only by the contracted muscles. The contraction was easily overcome by stretching, when motion was as perfect as in the opposite limb.

Before beginning prolonged experiments upon animals, and especially dogs, they should be clipped and thoroughly scrubbed in a warm bath with

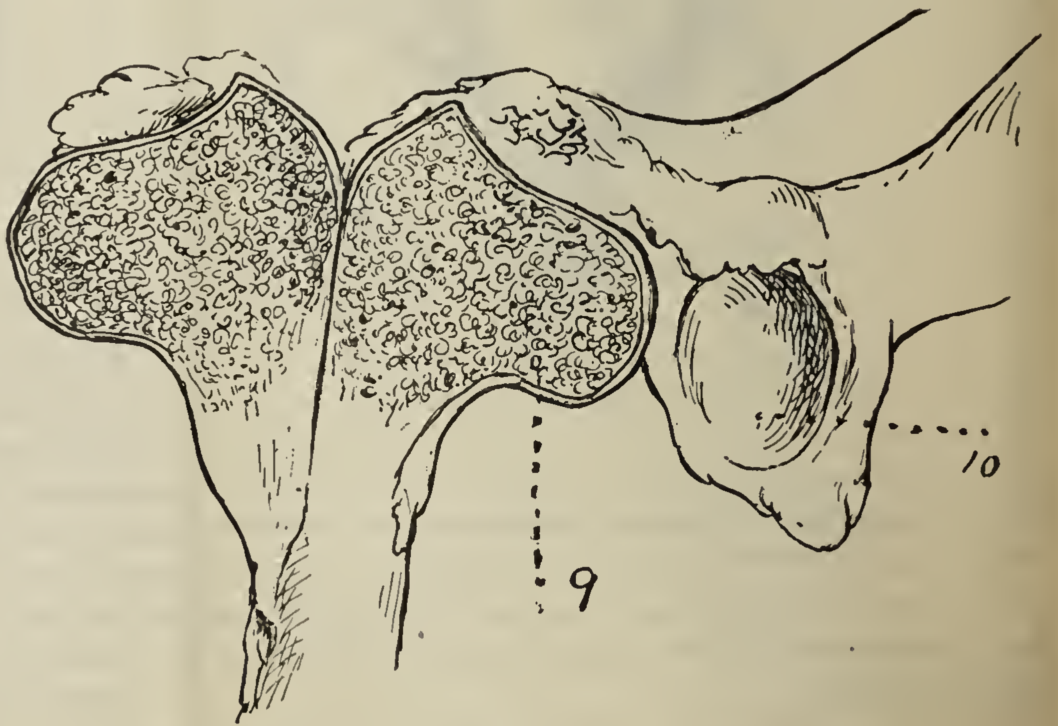


FIG. 6.

soap and a brush, then immersed in a solution of bichloride of mercury (1 to 200) for a short time; finally, the mercurial solution should be washed away with plenty of warm water. This process will not only remove filth, but will kill any vermin which, if left in the hair, would prove a source of annoyance to the animal and might defeat the object of the experiment. Bitches about two years old are preferable to dogs, as they are more easily kept clean; they are not so likely to wet the dressings as are dogs. They should be kept separate from all other animals, and their apartments kept well lighted and ventilated. The bedding should receive careful attention and frequent changing.

Conclusions.

The conclusions at which we arrive from these experiments are:

1. That a normal joint will not become ankylosed by simply immobilizing it for five months.

2. That motion is not necessary to preserve the normal histological character of a joint.

3. That when a healthy joint becomes ankylosed or its normal histological character changed, it is not due to prolonged rest, but to pathological causes.

4. That immobilizing a joint in such a manner as to produce and continue intra-articular pressure will result in destruction of the head of the bone and the socket against which it presses, as is evidenced by Specimen No. 1, Figs. 2 and 3, in which there was present the beginning of destructive changes.

5. That atrophy of the muscles of the limb will follow prolonged immobilization of a joint.

If these experiments prove that prolonged fixation will not produce ankylosis of a normal joint, that motion is not essential for the preservation of its normal function, then the causes of ankylosis must depend upon pathological conditions and not upon prolonged fixation.

It is claimed that motion in the treatment of inflamed joints prevents ankylosis. If this is a fact, why do the statistics of joints so treated show that ankylosis and deformity to a greater or less extent are by far the most frequent result? The statistics published by Shaffer and Lovette in the New York Medical Journal show in thirty-nine cases reported on in a series of many hundred—

Ankylosis	19
Slight motion	6
	25
Motion from 10° to 44°	7
Motion to right angle	3
Motion free	3

The three with free motion were treated during the first stage of the disease. Two were under three years old. There were only two cases without shortening.

The splint used was the long traction—one which admits of free motion at the hip joint. To test this question still further, I sent a patient with knee-joint disease, which I had nearly cured, to a distinguished masseur for treatment by that method. I had perfectly fixed her joint for one year. The apparatus was removed and she had motion to about 35°; no pain; could walk with ease. She was daily attended by the masseur. Her leg was flexed and systematically moved and rubbed. After six months I found almost complete ankylosis.

An examination made last week determined fibrous ankylosis and only a slight degree of motion. The ossified man, so called, paid a masseur to move his inflamed joints during two years of his early joint trouble. The result was perfect bony ankylosis of all the joints which were inflamed.

The Fakirs of India, after twenty years of penance, holding their limbs in one position, quickly regain the normal use of their joints after their religious frenzy has passed (Thomas).

I have several cases of children suffering from joint diseases which have been immobilized in a portable bed ten, twelve, and eighteen months, the joints of the lower extremities being kept perfectly quiet during the time. Recent examinations demonstrated that ankylosis had not taken place in the normal joints, and the inflamed joints are freely movable.

I desire to place these cases on record, to stand by the side of those cases of ankylosis reported, supposed to be due to prolonged rest of joint.

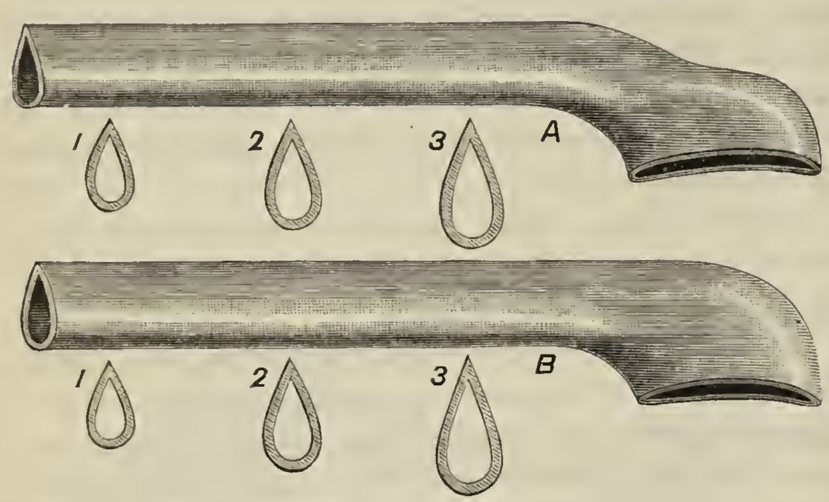
In the treatment of wounds, inflamed organs, and tissues, rest is one of the most important surgical laws. The surgeon protects the wound from friction by means of proper dressings, and the ophthalmologist puts the inflamed iris at rest by the use of atropine in a dark room. Since rest is a surgical law in the treatment of inflamed tissues in other parts of the body, and motion is not necessary for the normal preservation of a joint, or can in any way prevent ankylosis, why should many orthopædists still persist in treating inflamed joints by motion? *The question of ankylosis is determined by the severity of the inflammation, the character of the inflammation, the duration of the inflammation, the presence of intra-articular pressure, the subsequent cicatricial contraction of soft parts around the joints, the tissues involved, and the amount of destruction of bone and cartilage.* Motion of an inflamed joint only interferes with repair, and more certainly hastens the case on to ankylosis and deformity. To prevent this calamity, when it is possible, absolute rest and the relief of intra-articular pressure should be the plan of treatment. Inflamed joints treated upon the plan of absolute immobilization and the relief of intra-articular pressure furnish by far fewer cases of ankylosis, limited motion, and deformity.

The statistics from the Chambers Street Hospital of fifty consecutive cases of fracture at the elbow joint, published by Dr. Charles A. Powers, show only one case of ankylosis. This is a better series of results than has heretofore been published. These patients were dressed with plaster of Paris, and kept perfectly at rest for weeks, and no passive motion was allowed. This plan allowed the normal process of repair to take place without interruption. Motion could only have resulted in breaking up the new tissue formation and endangering the future usefulness of the joints, either by bony ankylosis or cicatricial contraction of the soft parts.

NASAL INTUBATION.*

By D. H. GOODWILLIE, M. D.

Nasal intubation consists in placing in the nostril a tube of suitable material, size, and shape, through which the respiration is performed, and also as a means of treatment for nasal diseases from various causes. After an experience of many years with metals and other material, it has been proved to my own satisfaction that pure soft rubber is the best material for the intranasal tubes. As the rubber is soft and elastic, it gently brings the diseased intranasal tissue into normal condition. Respiration can be performed during treatment. The tube gives little or no inconvenience to the patient and is not seen externally. It is readily introduced and removed.



W. F. FORD, N. Y.

Fig. 1.—Improved nasal intubation tubes. Full size.

The cut represents the tubes made of pure soft rubber. The three sizes and two forms A and B (Fig. 1), making a set of six, have proved sufficient for all ordinary cases. The difference in the two forms is only at the anterior end of the tubes, so as to meet the requirements in the treatment of individual cases.

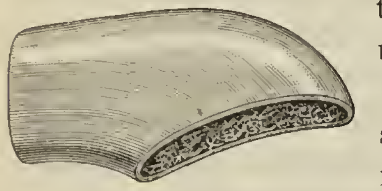


Fig. 2.—Nasal respirator. Full size.

By a slight modification, the tube is also made use of as a nasal respirator (Fig. 2).

The respirator occupies the anterior part or vestibule of the nostril (Fig. 3), and holds within it prepared wool or sponge, to cleanse the inspired air of impurities, or by suitable drugs medicate the inspired air for its therapeutic effect on the air passages.

The use of the intubation tubes is both of a *local* and *general* character—as a local treatment in restoring the respiration by correcting abnormal nasal conditions, and so, in a general way, increasing pulmonary action, as there can not be normal pulmonary respiration without normal nasal respiration. Respiration and alimentation are very essential processes in the human economy, and must be in normal proportions to support the vital powers.

As mastication is necessary to a proper digestion, so is nasal respiration to a normal pulmonary respiration. Alimentation, respiration, oxygenation, and assimilation are prime factors in the physiological process of human vitality.

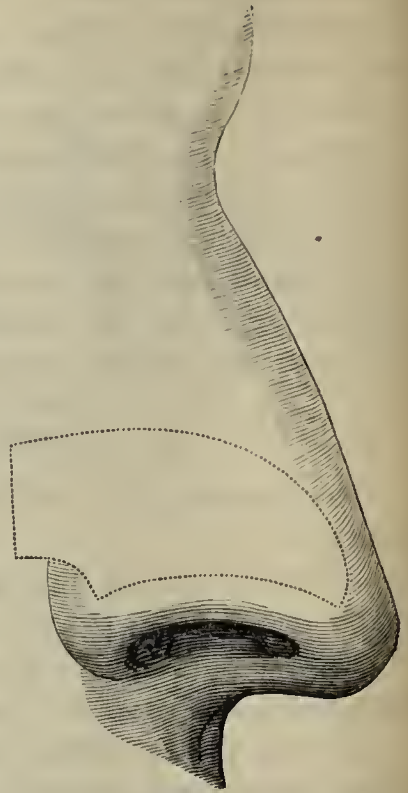
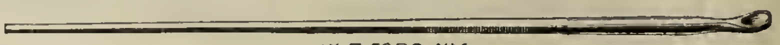


Fig. 3.—Nasal respirator in position in the nostril out of sight.

In order to get a successful result in treatment, give personal attention daily to all cases, and twice daily for all surgical cases, during the first part of the treatment.

After the first few days' treatment the patient can, between visits, remove the tube for cleansing, and return it as often as necessity requires. For cleansing the nostrils during treatment the best thing is peroxide of hydrogen, full strength, applied in the form of spray, with a rubber atomizer, or with cotton on a probe (Fig. 4), and passed into the inferior meatus of the nostril.

Any good antiseptic will answer, but the peroxide of hydrogen has the advantage over all others of being a thorough cleanser and a good antiseptic. After cleansing the nostrils and tube, put a little boro-vaseline (white vaseline, ℥j; boric acid, ʒj; menthol, 1 per cent.) on the tube, or warm and spray the nostrils with it before placing the tube in the nostril.

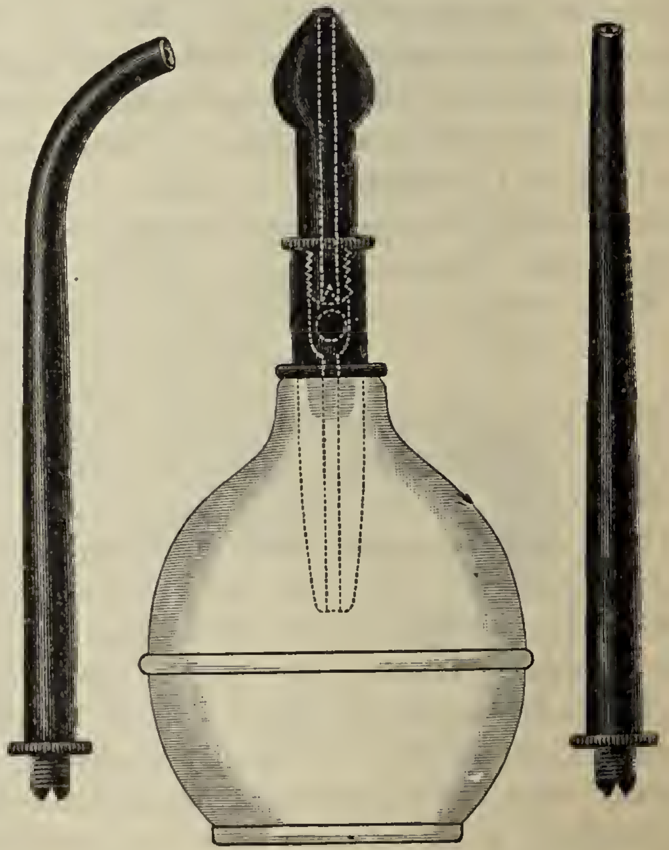


W. F. FORD. N.Y.

Fig. 4.—Nose and ear probe and curette. Half size.

If there is much irritation, substitute a one-per-cent. cocaine solution in the place of the menthol.

The patient can use between visits, after cleansing, the boro-vaseline in tin tubes for convenience, or a powder of



W. F. FORD, N. Y.

Fig. 5.—Insufflator for the application of medical and surgical powders.

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* Read before the Medical Society of the State of New York at its eighty-fourth annual meeting.

boric acid and menthol by means of my powder insufflator (Fig. 5).

To place the tube in the nostril, raise the end of the nose and pass the tube into the lower passage until the anterior end is in the vestibule out of sight. The rubber tube increases in size by use and may require to be shortened by cutting off the posterior end.

The following are some of the nasal diseases in which the intranasal tubes have successfully been used, viz.:

1. Hypertrophies of the soft intranasal tissues, when the tube is used for a sufficient length of time to produce change in the vascular tissue.
2. Deviations of the cartilaginous septum.
3. Intranasal hæmorrhage.
4. Fractures of the nose.
5. After the removal of hypertrophic tissue, deviations of the septum, polypi, etc., by surgical means.

Case I. *Intranasal Hypertrophy of the Turbinated Tissue.*—Mrs. A. B. had hypertrophied soft tissue of both inferior turbinateds, with all the attendant discomforts of improper respiration. Mucus dropping down through the post-nasal space, as it could not be blown out of the nostrils. Partial deafness, H. D. R. $\frac{30}{40}$, H. D. L. $\frac{35}{40}$. Cleansed the nostrils with a spray of peroxide of hydrogen, followed by the vapor of boro-vaseline and menthol for a few days, and then introduced tube No. 1 A into one nostril. On the third day after, introduced a similar tube in the other nostril. The respiration through them gave her immediate relief. After ten days, tube No. 1 A was changed for No. 2 A. She was seen daily for about six weeks for nasal applications and ear inflation. For one month of this time the tube was kept in constantly night and day, then for two weeks about half the time.

She used the spray for cleansing and the insufflation of the boric acid and menthol. Nasal respiration and hearing quite restored. The nasal secretion became normal. General health very much improved.

The nasal intubation tubes are exceedingly valuable in just such cases as the above, where there is hypertrophic turbinated tissue, or great dilatation of the vascular tissue, producing abnormal nasalr espiration. The gentle pressure of the intubation tube causes contraction of the dilated blood-vessels and sinuses and absorption of the hypertrophic tissue. No other treatment is necessary except thorough antiseptic cleansing. The patient usually experiences immediate relief from the respiration through the tube. If there is any irritation produced when the tube is first put in, a ten-per-cent. solution of cocaine, applied by cotton on a probe and passed into the inferior meatus or by spray, will allay it. This will be more often required in surgical cases.

In the following cases it may be seen how the nasal intubation tubes serve a very important part when *surgical measures* become necessary as a part of the treatment.

They give comfort in respiration, prevent hæmorrhage and excessive granulation, bring the parts into normal shape, and, when kept in for a sufficient time, prevent contraction and secure a normal passage.

Case II. *Loss of Vocal Power from Nasal Stenosis.*—Rev. Dr. J. L. experienced great difficulty in public speaking by the partial loss of his vocal powers. The effort was followed by hoarseness and expectoration. On examination, there was found to be stenosis of the left nostril, occasioned by an exostosis of the anterior nasal spine and deviation of the cartilaginous septum into the left inferior meatus. Very little respiration through that nostril, and the nasal secretion passing into the naso-pharynx. Follicular pharyngitis, vocal cords and bands catarrhal; hearing distance, left ear, $\frac{2}{40}$, and thickening of the naso-Eustachian opening. Removed the obstructions in the nostril, inserted a tube No. 1 A, and in a few days replaced it by No. 2 A. On the third day after its first insertion he spoke in public with the tube in, and continued to perform his public speaking until the tube was removed six weeks after. He said the breathing through the tube was a great comfort from the very first and helped him in the treatment in speaking. His vocal powers have now returned, and voice quite under control. His auditors express delight at the good change produced in his voice.

Case III. *Aphonia from Abnormal Nasal Respiration.*—A. M. G., lawyer, of Canada, had become so aphonic that he had been unable to argue cases in the courts. There was a sharp and long deviation of the nasal septum into the left inferior meatus, which was of normal thickness. Very little respiration and no anterior drainage through that nostril; secretions passed out through the naso-pharyngeal space, and to a considerable extent into the stomach. Vocal cords thickened by chronic congestion, which extended into the larynx, and, as a consequence, abnormal vocalization. Had some indigestion with constipation, with very little desire for food. Treatment consisted in fracturing the septum by means of my nasal forceps and placing it in normal position. An intubation tube, No. 2 B, was placed in the left nostril, which kept the fractured septum in place. Thorough antiseptic dressing of the nostrils was kept up for six weeks, during which time he had the tube in, except when removed for cleansing. A No. 3 B tube was used after the first two weeks, when the swelling had subsided. He kept the tube in for a month longer, about half the time each day; when healing and contraction were complete it was removed. His voice, respiration, and digestion are now quite restored.

Case IV. *Intranasal Deformity from an Injury.*—The Rev. F. R., of New York, received a blow upon the nose in youth from a base-ball, producing a fracture of the cartilaginous and bony septum, and dislocation with an exostosis into the inferior meatus of the left nostril. There was little or no respiration through the nostril, and his voice became seriously affected. On October 10, 1887, the exostosis was removed by my revolving shielded trephine, and the septum straightened by the nasal forceps. A nasal intubation tube No. 1 B was introduced into the left nostril, and kept in constantly day and night for a month, during which time he continued his public speaking.

This tube was replaced by No. 2 B, which was kept in about half the time for a month longer. It was removed several times a day for antiseptic cleansing. He has now by this treatment restored respiration and good voice, with no mark of the operation left in the nostril. He is present to be examined by any who desire to see the successful result of treatment in his case.

Case V. *Exostosis in the Left Nostril and Hypertrophic Turbinated Tissue in the Right; Non-oxidation and Assimilation.*—F. M., of Memphis, Tenn., eighteen years of age. General health impaired for some years, preventing him from pursuing his studies. Tall, slender, contracted chest from improper pulmonary action in consequence of non-nasal respiration and mouth-breathing, and lung expansion an inch and three quarters. Albumin in the urine in so great quantity that his former treatment had been directed with reference to it especially. Removed exostosis and displaced septum; at the same time scarified through the hypertrophic turbinated tissue of the other nostril by the electro-cautery knife. By scarifying, the smallest amount of mucous membrane (so essential in normal nasal respiration) is destroyed in reaching the underlying hypertrophic tissue and no scar is left. A very small scar was unavoidably left in the other nostril by the removal of the exostosis by the trephine. A No. 1 A intubation tube was put in both nostrils immediately after the operation and kept in day and night without an hour's loss of sleep or discomfort. A No. 2 A tube was substituted for the others after a few days in both nostrils. The tube was removed from the right nostril at the end of five weeks and from the left in ten weeks, as healing and contraction had taken place. As soon as respiration through the nose was restored, by means of the intubation tubes, together with the thorough antiseptic cleansing and pneumo-muscular chest exercise with proper alimentation, it restored his recuperative powers and gave him comfort of body and mind such as he had never experienced.

When discharged from treatment there was not a trace of albumin in the urine, a good normal nasal and pulmonary respiration, chest expansion increased to three inches, and he had gained ten pounds in weight.

From the use of the intubation tubes in such cases, it requires the minimum amount of hard tissue to be removed, thus producing little or no scar. In the electro-cautery scarifying there should be no scar left after the healing and contraction. The tube preserves the normal caliber of the intranasal passages.

Case VI. *External Nasal Fracture, with Dislocation of the Septum from Behind the Columna Nasi.*—Captain G., of Montreal, Canada, when a boy, fell and broke his nose by a blow on the bridge, at the junction of the hard and soft tissue. His condition when he came under my treatment three years ago was as follows: The lower end of the nose was flattened, while upon the bony ridge about the middle was a point of hypertrophied bone that gave great prominence to the bridge. Septum dislocated from behind the columna nasi into the right nostril, and the top of the septum flattened by the blow and bent into the right nostril. No respiration through the right nostril, and very little through the left. Treatment consisted in amputating the end of the dislocated cartilaginous septum and placing it in normal position behind the columna nasi. The crushed septum was next cut through from one nostril to the other, separating the septum from the depressed ridge of the nose. The nasal forceps was applied and the septum straightened and brought into normal position. Intubation tube No. 3 B was placed in the nostrils and kept all the parts in normal position and shape. Respiration was carried on through the tube, this being removed twice daily for antiseptic dressing, and immediately replaced. The exostosis on the bridge of the nose was removed by a longitudinal incision on the top of the ridge, the skin and periosteum lifted, and the exposed hypertrophied bone removed by the revolving multiple knife. The wound was closed by fine sutures and antiseptic dressing. The result of this treatment was all that could be desired, the internal and external deformity being entirely removed. The wax models and photographs show the case before and after treatment.

Case VII. *Serious Nasal Hæmorrhage.*—I was called by the family physician to see J. R., of New Jersey, a young man exsanguinated by a nasal hæmorrhage, whose life had been threatened on several occasions by these hæmorrhages. It was found on examination that the inferior turbinated bodies were very much enlarged by dilatation of the sinuses and blood-vessels. An electro-cautery needle was passed into each turbinated body and an intubation tube No. 1 A placed in each nostril. Three days after, tube No. 2 A was used, which gave him good respiration. After a week's treatment he had learned to remove the tubes himself, cleanse and replace them. He was sent to the sea-shore to recuperate. In three weeks he returned in vigorous health, having gained twelve pounds since he came under treatment. The tubes were then removed. This young man was of a hæmorrhagic diathesis; he had very little nasal respiration, and had breathed by the mouth very impure air, resulting in this bodily condition of non-oxidation. His nasal and pulmonary respiration being normal, he was advised to lead an out-of-door life, and has since been in good health.

160 West Thirty-fourth Street.

ANOTHER HITHERTO UNDESCRIBED
DISEASE OF THE OVARIES.

ANOMALOUS MENSTRUAL BODIES.

By MARY A. DIXON JONES, M. D.,
BROOKLYN.

(*Concluded from page 516.*)

Case VII.—Another patient had been treated for seven months at the dispensary of the Woman's Hospital. I saw her first in December, 1886, when I returned from Europe. She had local pain and emaciation, looked cachectic, and had disturbed nerve and mental conditions. I said to the physician in charge that I did not believe any treatment would cure her, and delaying an operation was only endangering her life. The seven months' faithful attention had not accomplished anything. In January, 1887, I removed the diseased ovaries. She did well. I saw her a month after; she had improved. I did not see her again until July, 1889; the woman was so very much improved that one would not have recognized her, or imagined she ever had been sick.

Case VIII.—In the same year I operated on another patient, who had not only great suffering, but her mental conditions were so disturbed that her friends thought she was becoming insane. She frequently said "she felt as if she would go mad, as if she must kill some one, or do something desperate." The ovaries in this case were found to be full of anomalous menstrual bodies, surrounded by layers of new fibrous connective tissue, on which evidently had been ingrafted repeated and new attacks of inflammation. I saw this patient again in August, 1889; she was apparently well, and gave every indication of good health, both of body and mind.

Case IX.—A young girl, twenty-six years of age, who said she had been sick for five years, unable to work, could not sleep, and she wrote: "I have been in this country five years, and I can say I never had a well day, and continually growing worse." The right ovary in this case was enlarged into a cyst, and both ovaries contained forming gyromata. The ova contained colloid corpuscles. The Falloppian tubes were in a state of interstitial inflammation. This patient made a good recovery, and afterward wrote she "was glad that she had had the operation; that she was now able to work."

Case X.—A patient consulted me in June, 1884. She was then twenty years of age, single, had been an invalid seven years; once did not leave her bed for a period of eighteen months. She suffered with constant pain in the pelvis, was extremely hysterical, and her mental condition so much disturbed that she had talked of suicide, "threatening to kill herself and all the family." I found the ovaries enlarged, extremely sensitive, and pushed down behind a completely retroverted uterus. She told me she had had twenty-one doctors, and eighteen different kinds of pessaries had been applied.

I had her under treatment, local and constitutional, for some months, at the end of which time I could not see that she was in any essential respect improved. I rather thought the disease was advancing, and I was fully convinced that nothing would help her but an operation. I requested Professor Gill Wylie, of New York, to see her. He advised the operation without delay. It was performed in October, 1884. I was assisted by Professor Gill Wylie and by Dr. C. N. D. Jones. Dr. J. Merrit administered the ether.

The diagnosis then made by microscopical examination was "oophoritis and salpingitis." Lately considering this patient's history and her symptoms, I was certain she had gyromata or anomalous menstrual bodies; so again I examined the same microscopical slides, and found that much of the ovary was occupied by this growth.*

The operation was the only procedure that would have relieved the patient's suffering, or have prevented her from growing worse, and after the operation she would necessarily grow better. When such conditions have existed for a long period, injury is done to the nervous system, which injury is not immediately removed on removing the cause, no more than taking away a cutting knife will heal at once the cut already made.

Case XI.—A teacher by profession, twenty-five years of age, married six years, no children. For the last five years she had been an invalid, unable to attend to her household duties, and as incapable of being a wife as a mother. Her physician called me in consultation; the patient lay helpless in bed, with an anxious expression of countenance and a disturbed mental condition. She took no interest in life; she was so weak and so great were her paroxysms of suffering that a number of times her husband and mother thought she was dying. She complained of constant and agonizing pain in the lower part of the pelvis; said that defecation gave her most extreme distress—"it hurt something inside." The patient was weak and reduced in flesh, weighed about seventy pounds, temperature 101°, pulse 120. The ovaries were enlarged, extremely sensitive, and low down in the sac of Douglas, behind a retroverted uterus. The tubes were enlarged, inflamed, and adherent. The patient had symptoms of insanity, and had talked of self-destruction.

She entered the Woman's Hospital of Brooklyn, brought to it in her husband's arms, was nervous to such a degree that she was all the time like a frightened deer, often threatening to jump from the window, and all the time with hallucinations, some of which could not be dispelled. Every operation on her bowels produced extreme pain, a faintness, and almost a death-like weakness. Menstruation was accompanied by suffering so agonizing, and a prostration so extreme, that it did not seem possible that her feeble frame could bear up.

In her case it was trouble with both the tubes and ovaries; the condition of either was sufficient to have produced great suffering, and their removal gave the only chance for future health, mental or physical. The operation was performed in July, 1887. Dr. A. M. Jacobus was present and assisted. The patient was carried in the nurse's arms to the operating-room, and was happier at the prospects of an operation than she had been at any time I had ever seen her. She made a good recovery; at the end of the second week she rode out, went up and down stairs without assistance, and her mental condition seemed more natural. At the end of the fourth week she accompanied her husband home, mounted the elevated railroad without help, and that day walked as much as a mile. After her return home her mental and nervous conditions continued to improve, and soon she was able to attend to her household duties.

Microscopical examination showed that the ovaries were in a state of intense acute oophoritis and contained many large anomalous menstrual bodies. The Falloppian tubes were marked by interstitial inflammation.

The cause of the gyroma in this case was possibly the discharge of pus from the Falloppian tubes, which excited repeated attacks of pelvic peritonitis. The peritonitis caused inflammation of the ovaries, or the ovaries may have been inoculated directly by pus from the tubes. The inflammation of the ovaries caused the formation of the gyroma. The gyroma increased yet more the oophoritis, and produced such serious disturbances in the physical and mental conditions as would soon have ended in insanity and death.

The Changes that take Place in the Graafian Follicle and in the Ovarian Tissue shortly after the Menstrual Discharge of the Ovum.—Fig. 1 represents the menstrual follicle ten or twelve days after menstruation. It is from Case XI.

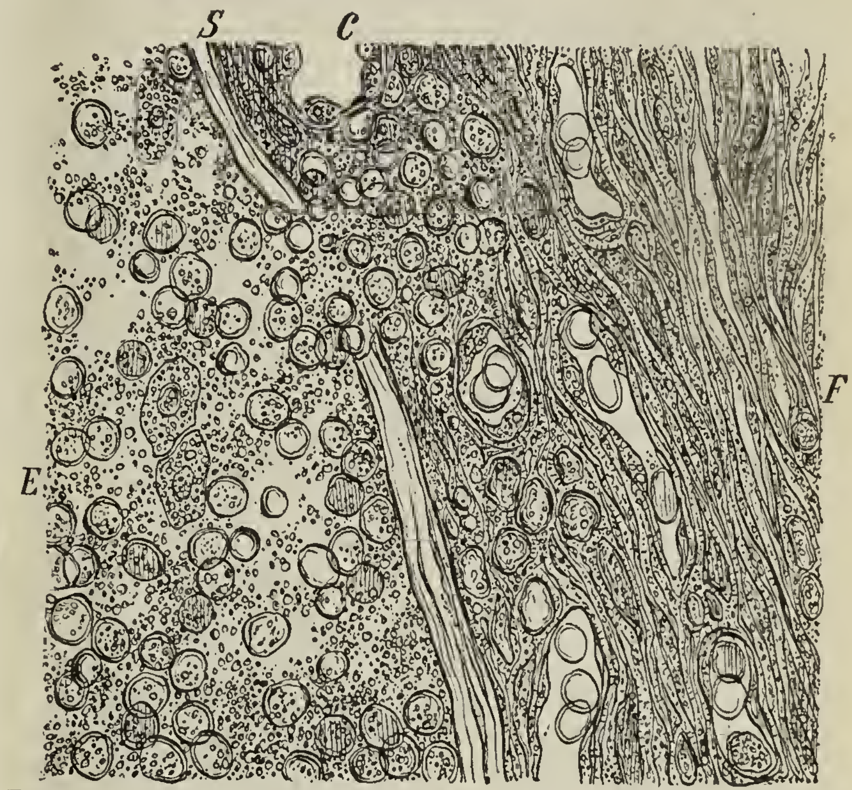

Fig. 1.—Menstrual follicle, 10 to 12 days after rupture, × 600. E, extravasated blood; S, so-called structureless membrane; C, capillary blood-vessels; F, fibrous connective tissue.

Laparotomy in this case was performed a few days after menstruation, and as the ovum is discharged a few days before menstruation, the time that had elapsed between the discharge and the removal of the ovaries was ten or twelve days.

The only remnant of the previous (Graafian) follicle is the so-called structureless or basement membrane which is broken, not only at the spot where the ovum escaped, but also in many other places. This follicular membrane in no instance is perfect and unbroken after menstruation is over. Within the follicular cavity there are scanty remnants of lining epithelia, coagulated albumin, and a vast number of blood-corpuscles. Wherever there is an interruption in the continuity of the follicular wall we invariably see some hæmorrhage outside of it into the ovarian tissue. At the period mentioned already a distinct inflammatory reaction is observable. This is shown by the presence of a varying number of highly refracting, homogeneous, or more or less granular inflammatory corpuscles in the close vicinity of the follicular wall, whereas a little distance away the bundles of fibrous connective tissue as well as of smooth muscles are reduced into a protoplasmic condition known to be the initiation of inflammation. Even in a normal process such as menstruation is, the repair of losses of substance which necessarily follows the rupture of a ripe Graafian follicle is identical with what we know as plastic or reparative inflammation.

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* This case was reported in the Medical Record, April 11, 1885.

The constituents of the blood-clot—namely, red blood-corpuscles, white blood-corpuscles, albumin, and fibrin—do not become organized or partake in the formation of a tissue of repair.

The so-called structureless walls seem to remain inactive throughout the whole process of repair, at least in its normal course. The medullary tissue, filling up the previous follicular cavity, is gradually transformed into myxomatous connective tissue, destitute, as a rule, of blood-vessels, showing now and then cavities, probably caused by a liquefaction of the myxomatous substance, improperly termed cysts (Fig. 2). Not infrequently such a transformation into myxomatous tissue is seen not only within the follicular cavity, but outside of it, so much so that the original structureless membrane of the follicle appears imbedded in a myxomatous tissue, occupying a more or less area of the ovarian tissue, mostly at the boundary between the cortex and medulla. A varying number of yellowish-brown pigment clusters is often met with in the myxomatous tissue, inside or outside the follicular wall, and also in the adjacent, apparently unchanged ovarian tissue. The presence of such pigment clusters is due to the previous menstrual hæmorrhage. With advancing age the myxomatous tissue becomes less and less, until nothing is left of the original follicular wall but the so-called structureless membranes distinctly convoluted and imbedded in ovarian tissue.

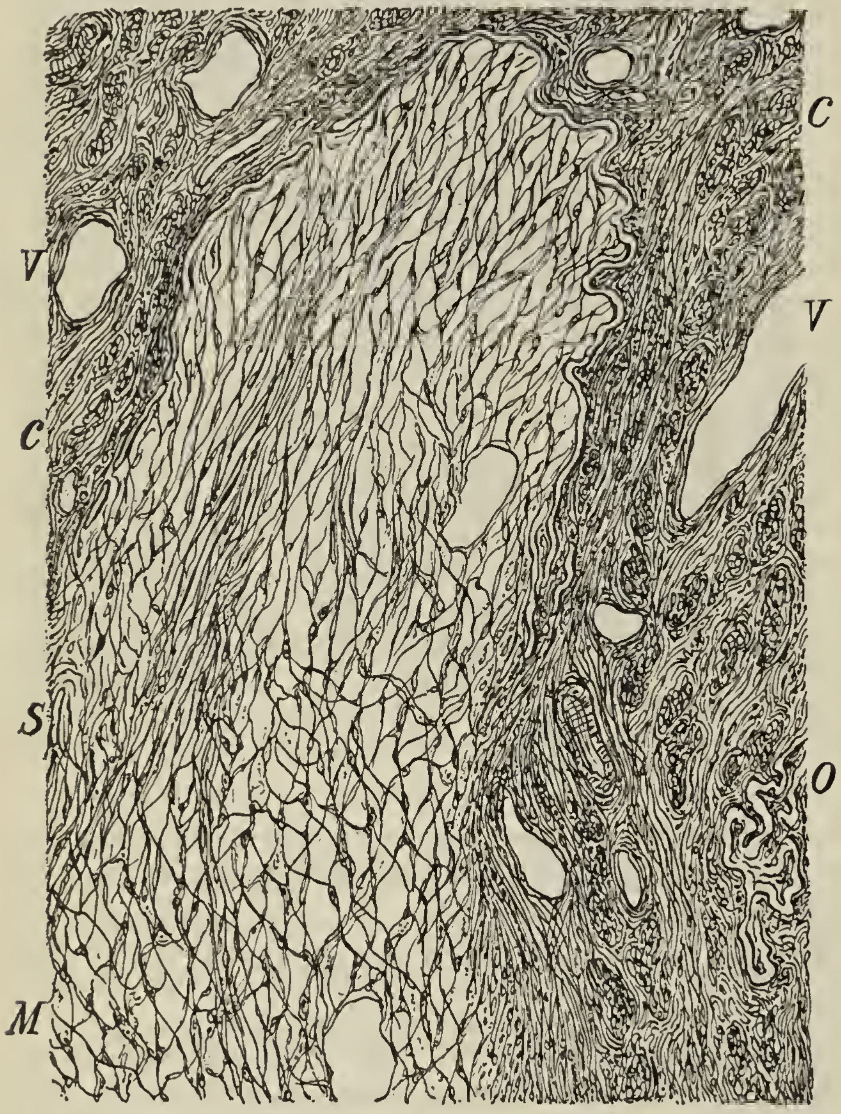

Fig. 2.—Normal menstrual body, × 100. C, C, cortex of ovary; S, so-called structureless membrane, broken; M, myomatous tissue filling the previous follicle; O, old menstrual body—remnants of structureless membrane; V, V, veins.

Corpora Lutea Spuria, and Corpora Lutea Vera.—It is asserted, and generally believed to be true, that, should pregnancy follow menstruation, the changes of the Graafian follicle are much more pronounced, causing the appearance of a heavy connective-tissue wall around the clot of blood which is thought to be delayed in the process of absorption. The cicatricial depression on the surface of the ovary is but slightly marked after menstruation, but is said to be very pronounced after pregnancy. Frequent attempts have been made to overthrow this distinction between a menstrual and a gravidity corpuscle, the so-called corpus luteum spurium, and corpus luteum verum. From time to time there have been many facts presented contradictory to such a distinction. I think this whole theory can now be disproved. What observers have termed corpora lutea vera were evidently nothing else but anomalous menstrual bodies and endothelioma, changing to angeioma and hæmatoma. I have seen ovaries of women who had never borne children and still had sometimes very pronounced cicatrices on the surface of the ovary. Whenever I cut into such cicatrix I find what old writers called corpora lutea vera, which were nothing else than anomalous menstrual bodies or endothelioma, reaching the surface, especially a prolongation from the central mass of coagulated fibrin. I have examined the ovaries of a woman

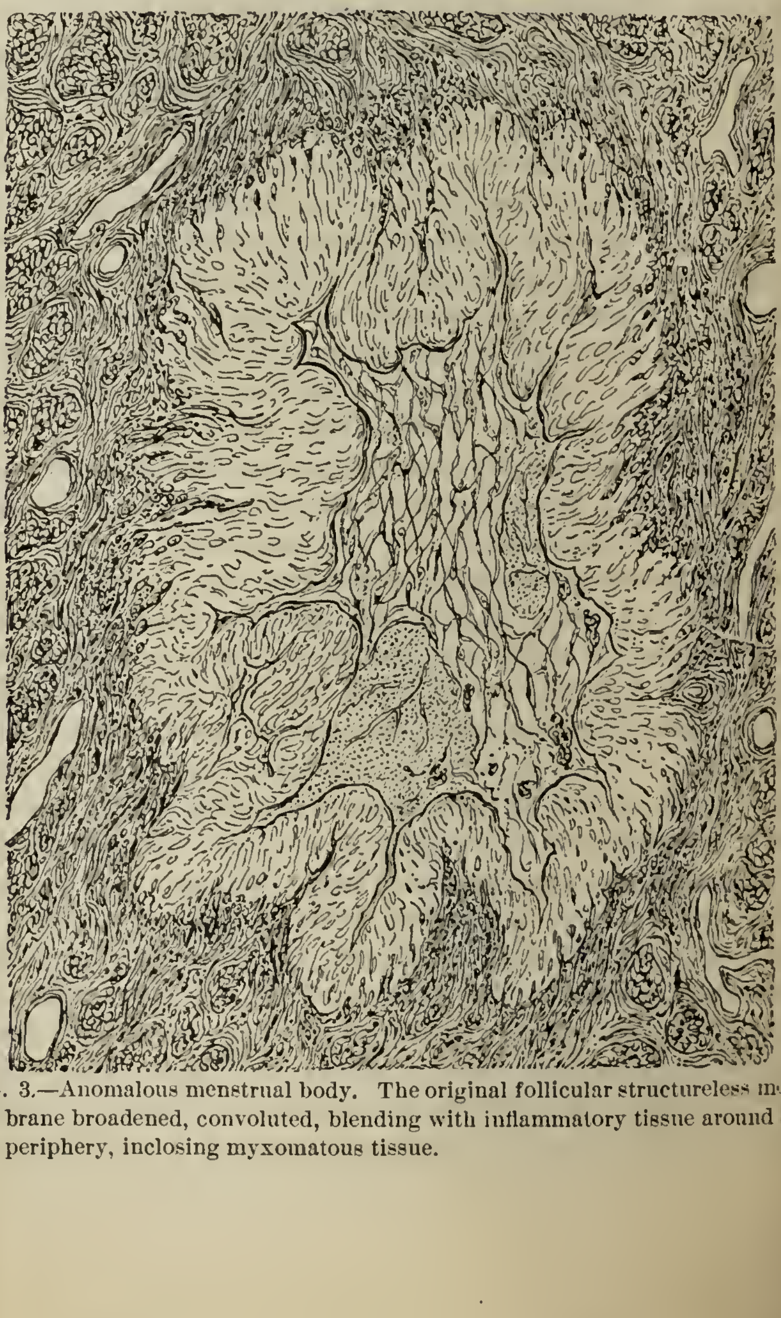

Fig. 3.—Anomalous menstrual body. The original follicular structureless membrane broadened, convoluted, blending with inflammatory tissue around the periphery, inclosing myxomatous tissue.

who had nine children, and but one cicatricial depression could be found in the left ovary. This proved to be an extended myxomatous menstrual body differing from the so-called spurious corpora lutea only in bulk, but otherwise identical with a menstrual body in every respect. The right ovary of this woman was lobated and crowded with retractions, and, upon microscopical examination, proved to be the site of an extended endothelioma.

Both normal and morbid follicular walls are convoluted, the convolutions increasing in number with the advance of the morbid process. The structureless membrane or follicular wall sometimes becomes enlarged by transforming surrounding ovarian tissue into its own.

On watching the periphery of this formation, which spreads like flames or an opening flower into the surrounding ovarian tissue, we see either an abrupt termination or a gradual blending of one into the other. Where the latter is the case we invariably observe a certain amount of medullary or inflammatory tissue in the adjacent cortex, penetrating the periphery of the follicular membrane and thus causing its flame-like appearance. This feature goes far to prove that the process is materially an inflammatory one, leading to a transformation of the ovarian tissue, including fibrous connective tissue as well as smooth muscle, into an elastic, hyaline mass.

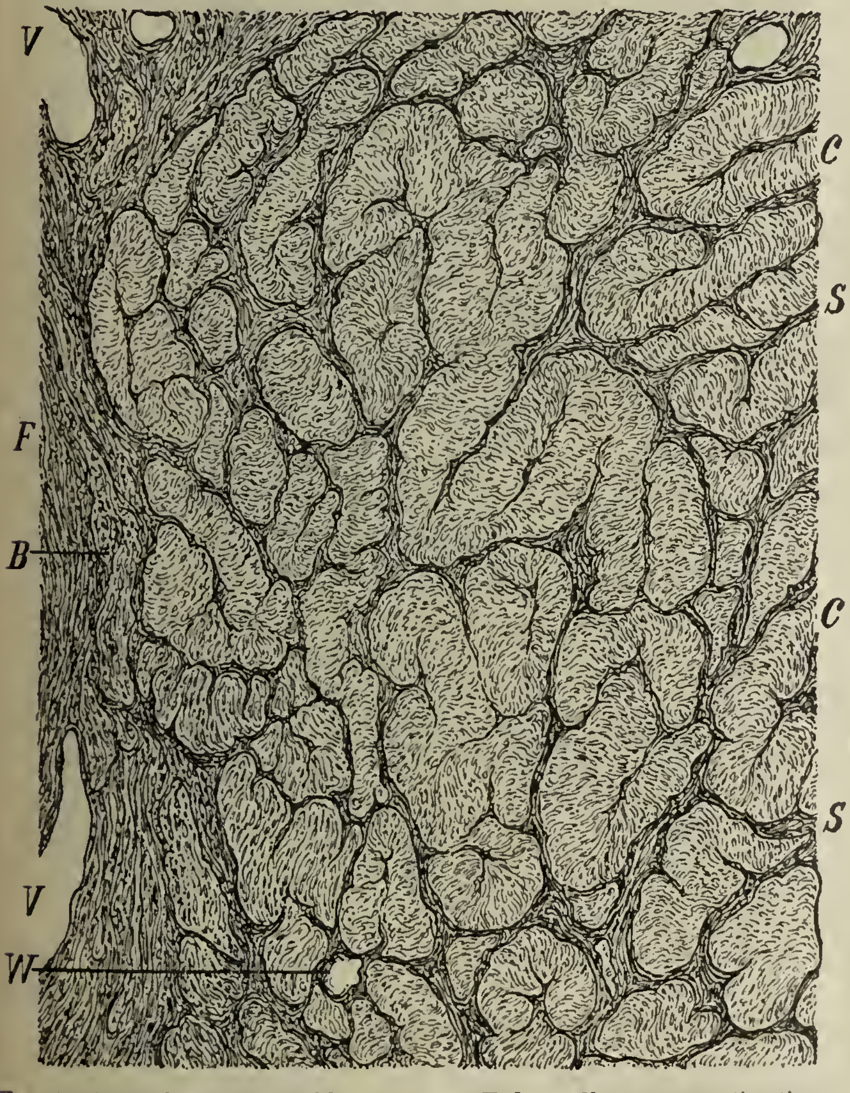

Fig. 4.—Anomalous menstrual body, × 100. F, dense fibrous connective tissue; C, C, convoluted slightly waxy formations; B, beginning appearance of convoluted formations; S, S, septa of fibrous connective tissue between the convolutions; V, V, veins; W, waxy or colloid corpuscle.

In the slightest degree of the disease we notice peculiarly convoluted, highly refracting masses in the cortical tissue of the ovary, inclosing in a usually small central area myxomatous tissue, in which are protoplasmic masses, and in the myxomatous tissue a varying amount of golden-brown pigment clusters.

In the highest degree of this change we find large territories of the ovaries, transformed into convoluted masses separated into groups by a scanty amount of dense fibrous connective tissue, and surrounded by only scanty vestiges of the cortical tissue of the ovary (Fig. 4).

Low powers suffice to show that at the boundary between the convolutions there are transitional formations of medullary tissue into the elastic or colloid substance, building up the anomalous menstrual bodies. Fig. 4, B, shows such places of transition. If such a place is now magnified with a power of at least 600 diameters or more (see Fig. 5), we see that the fibrous connective tissue is first reduced to a protoplasmic condition, followed by the appearance of medullary corpuscles. The latter are the very foundation of gyroma, since they become infiltrated with an elastic or colloid basis substance, not fully developing into fibrous connective tissue.

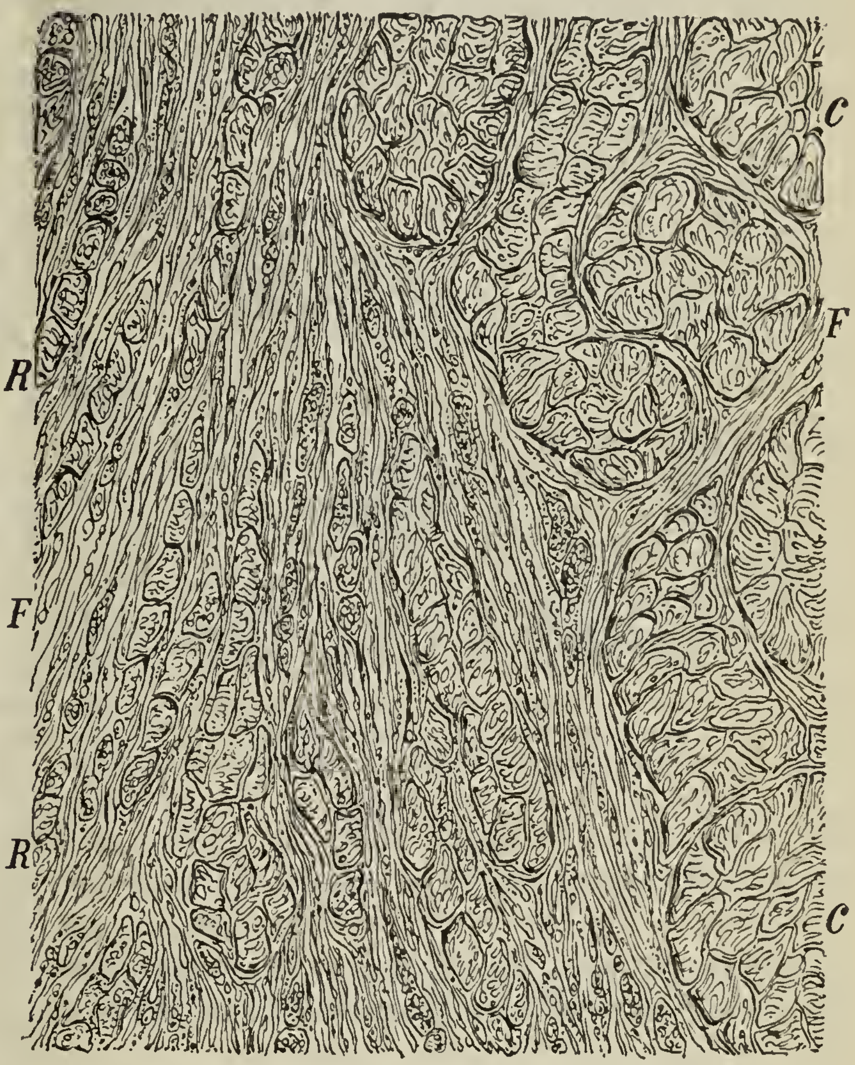

Fig. 5.—Anomalous menstrual body, × 600. C, C, fully developed convoluted formation; R, R, rows of medullary corpuscles, slightly waxy; F, F, fibrous connective tissue.

In the highest degree of the development of this tissue even the final boundary lines are lost, and the convolutions look almost homogeneous, even to the highest powers of the microscope.

Considerable interest attaches to the formation of pigment clusters both in the myxomatous tissue surrounded by anomalous menstrual bodies, and, though to a smaller extent, in the delicate fibrous connective tissue between the convolutions (Fig. 6).

These clusters hold a varying number of globular, highly refracting bodies, smaller in size than red blood-corpuscles, and known by the term hæmatoblasts. There are pigment clusters differing in their hue from those known to be due to hæmorrhage after bursting of a menstrual follicle. While the latter are golden brown, the former are dark-brown, and in heavy masses jet black. We know that the hæmatoblasts are the formers of coloring matter in so-called melanotic tumors. No doubt here the dark pigment is caused by a transmutation into granules, and afterward by their coalescence into clusters of pigment.

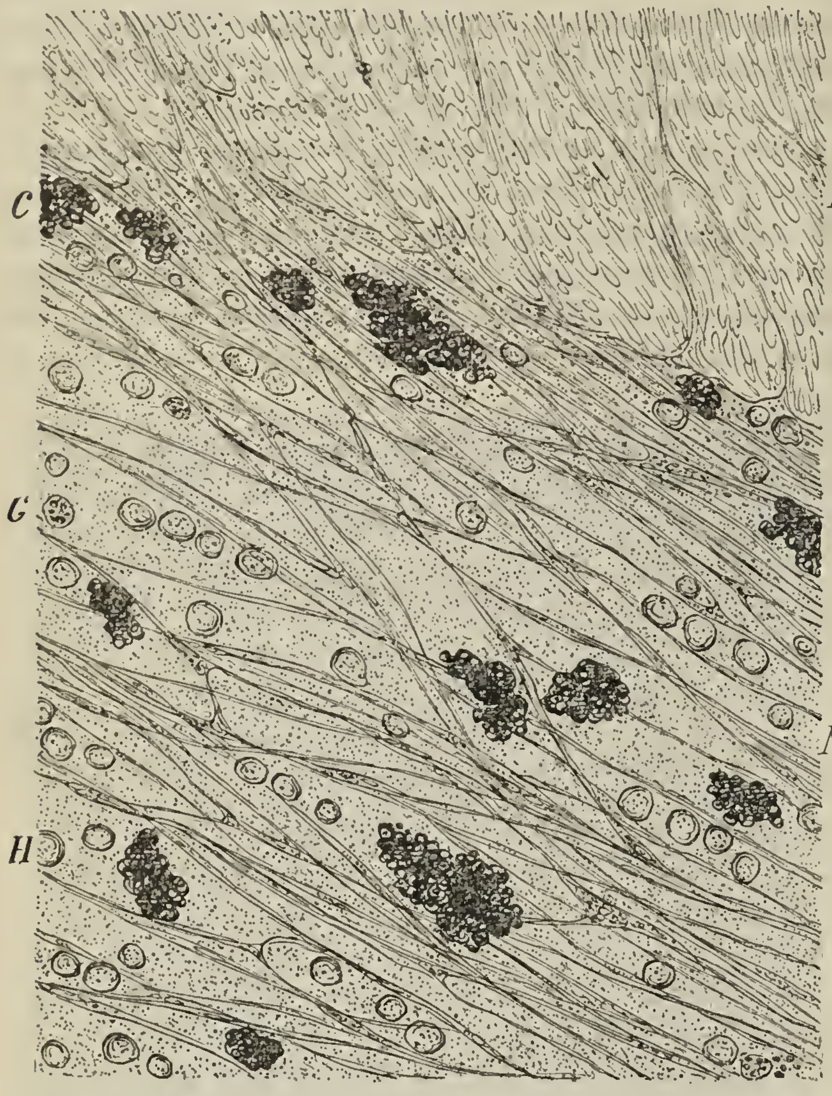

Fig. 6.—Anomalous menstrual body, × 600. F, follicular wall, much broadened; M, myomatous tissue filling follicular space; C, cluster of pigment granules; H, hæmatoblasts; G, pigment granules in a hæmatoblast.

In Fig. 6 we see that some hæmatoblasts hold pigment granules, rendering probable the formation of the large black clusters from the same source. Instances of such pigmentation were rather few in a large number of specimens examined.

In the vicinity of anomalous menstrual bodies we invariably meet with anomalies of blood-vessels. The capillary vessels are at first augmented and conspicuous by their straight course. The veins are dilated to a large extent, often engorged with blood. Arteries, especially those of the medulla of the ovary, are not infrequently in the condition of enarteritis obliterans and waxy degeneration of their middle coats. Fig. 7 gives illustration of the peculiar changes of the arteries upon the approach of gyroma. We see both the smaller and the larger arteries stretched out as if mechanically by the pressure exerted by the gyroma upon them. The middle coats are enormously enlarged and thickened, the smooth muscle fibers being uniformly transformed into a waxy or elastic substance, obviously originated in the same manner in which the constituent elements of gyroma took origin. The calibers of the arteries are extremely narrow and straight. In many places distinct endarteritis obliterans can be traced, leading to obstruction of the caliber and its transformation into a nearly homogeneous waxy mass. Indeed, there are tracts resembling arteries in their course but are entirely solidified and transformed into waxy or colloid masses. The adventitial or fibrous connective tissue is scanty, and the capillaries held therein are stretched out, compressed, and in part solidified to fibrous connective tissue. By tracing the progress of gyroma into the medulla of the ovary, we arrive at the conclusion that the arteries themselves participate in the growth of the gyroma by being first solidified, and in turn transformed into the same peculiarly convoluted masses that are characteristic of gyroma. In fact, there is no tissue forming the ovaries that can escape the transformation into the growth under consideration. I lay stress upon the peculiar changes of the arteries for the following reasons: In my previous article I have rather cautiously alluded to the possibility that endothelioma may originate from solidified and waxy arteries, since I am positive of the participation of such arteries in the production of gyroma, and confidently maintain the origin of endothelioma from such arteries, as endothelioma is invariably the outcome of gyroma.

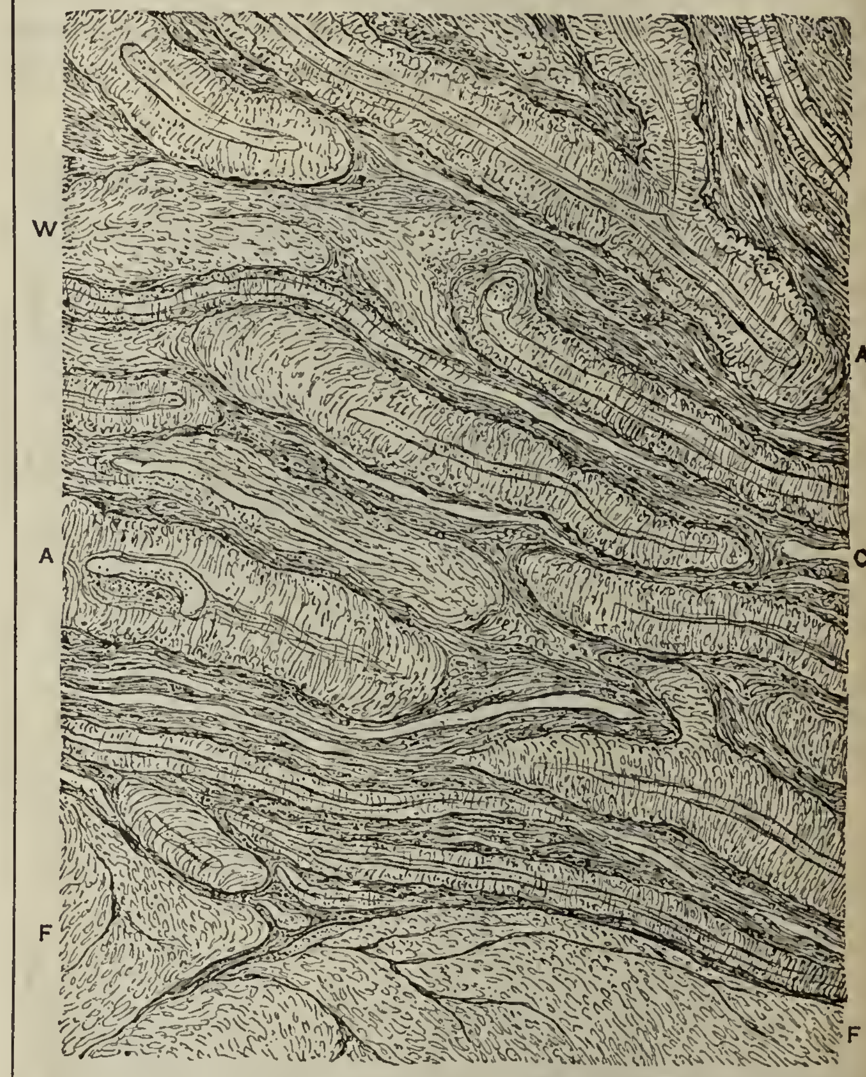

Fig. 7.—Sclerosis and waxy degeneration of arteries near anomalous menstrual body, × 100. F F, hyperplastic and waxy wall of follicle; A A, arteries with sclerotic walls in waxy degeneration; C, capillary blood-vessel; W, waxy mass in fibrous connective tissue.

In but one case have I seen a peculiar change of the arteries to which no other name can be given but cirsoid aneurysm in the vicinity of gyroma (Case I, Fig. 8). This evidently is an enormous dilatation of most of the large arteries, probably in consequence of impeded circulation, caused by the presence of gyroma. At the same time the middle coat of the arteries was thin, and in this way an image produced as is observed in rather rare cases in the temporal region in so-called cirsoid aneurysm, which consists essentially in a dilatation and convolution of the arteries.

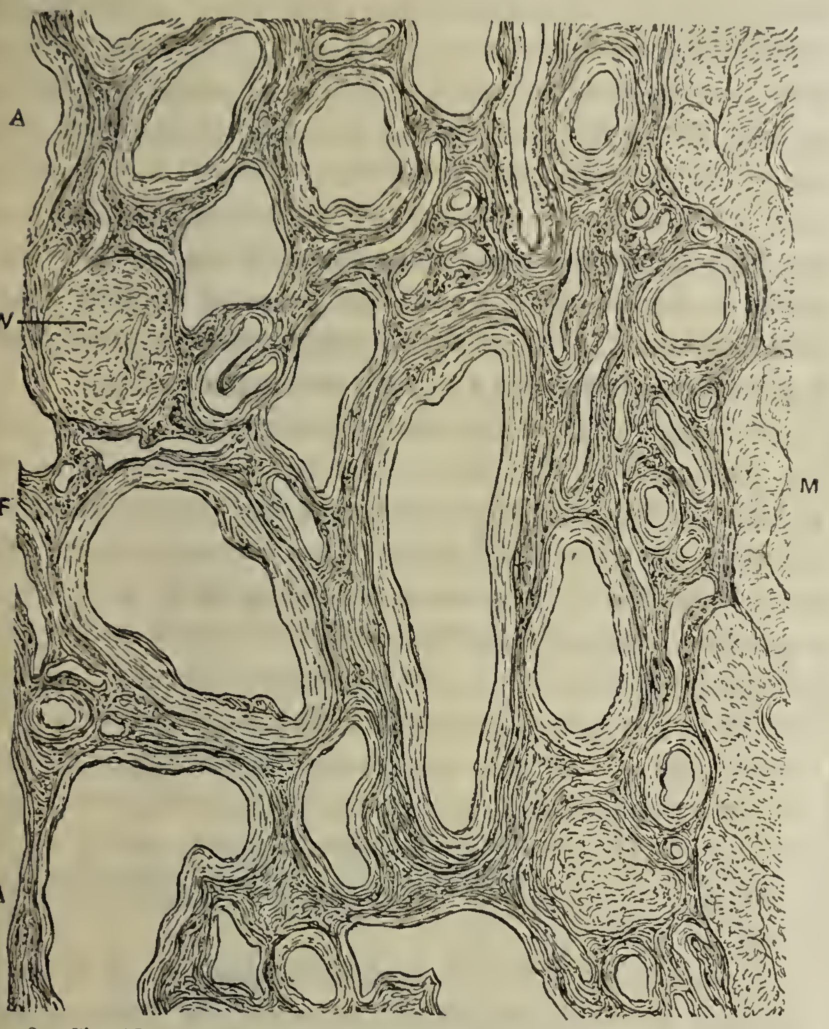

Fig. 8.—Cirsoid aneurysm near anomalous menstrual body, × 50. M, anomalous menstrual body; A A, much-dilated arteries with walls; F, fibrous connective tissue with numerous capillaries.

Some of the arteries were transformed into solid glossy masses, either entirely destitute of calibers or exhibiting vestiges of such. This results from endarteries obliterans before alluded to, and also often seen in endothelioma.

We may draw the following conclusions:

1. Endothelioma is the outcome of anomalous menstrual bodies.
2. Anomalous menstrual bodies or gyroma are transformations of portions of the ovary into convoluted, highly refracting masses, which in many instances replace most of the ovarian tissues.
3. Anomalous menstrual bodies are the result of a progressive inflammatory process. They invariably cause inflammation in the adjoining ovarian tissue, and are instrumental in the development of mental and bodily derangement.
4. The only way to cure the bodily and mental suffering due to the presence of anomalous menstrual bodies or gyroma, as well as of endothelioma, is extirpation.
5. What previous observers have termed corpora lutea vera are evidently nothing but anomalous menstrual bodies or endotheliomata, changing to angeioma and hæmatoma.

The Medical Society of the County of Suffolk.—At the annual meeting of this society, held in April, Dr. W. W. Hewlett, of Babylon, was elected president.

THE RATIONAL TREATMENT OF FLAT-FOOT.*

By ROYAL WHITMAN, M. D., M. R. C. S.

In spite of all that has been written on the subject, I am inclined to think that less is known of flat-foot, its diagnosis, causes, results, and proper treatment, than of any affection of corresponding frequency and importance in surgery.

It is a common affection, judging from the cloddy, inelastic walk by which one may recognize it on the street. It is an important affection because of its progressive character and the pain and disability that results. It is unrecognized, for nearly every case of any severity will be found to have undergone a long treatment on the supposition that the symptoms were the result of rheumatism. Its true causes are not appreciated, as shown by the various and conflicting theories of its ætiology in the text-books. Its treatment, finally, is often as irrational as the theory on which it is conducted.

What is ordinary flat-foot? It is an acquired partial dislocation of the bones of the foot. It is not the result of muscular spasm or paralysis, or of primary lax ligaments, or of congenital deformities of bones, as stated by various writers on the subject. Muscular spasm, contraction, paralysis, and lax ligaments, as well as the congestion, inflammation, and deformity of the foot, are the results of the dislocation and not its causes. The dislocation is the result of an overstrain or weight for feet subjected to mechanical disadvantages in standing and walking, aggravated, it may be, by injury or disease.

These disadvantages are:

1. The exaggerated turning out of the toes—a habit which greatly increases the strain on the weakest part of the foot.
2. The improper shoes, which deform the foot and weaken its muscles.

This theory is not merely the simplest, but it is the only one on which treatment may be satisfactorily conducted.

Such treatment is—

1. To replace the dislocation.
2. To hold the foot in proper position.
3. To strengthen the supporting muscles.
4. To avoid the original exciting causes by cultivating a proper walk.

Diagnosis of Flat-foot.—The patient complains of—

1. Pain in the feet, aggravated by standing or walking, especially on going up or down stairs. The pain is usually about the arch, sometimes running up the leg, or it may be below the external malleolus, at the forefoot or heel.
2. Stiffness and weakness of the feet. These symptoms, combined with an inelastic gait, with the toes turned out, are of themselves almost sufficient to confirm a diagnosis.

On examination, one usually finds some congestion about the medio-tarsal joint, a moderate prominence below and in front of the internal malleolus, with pain at this point on suddenly moving or twisting the forefoot, also a considerable flattening of the arch when weight is borne.

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* Read before the Orthopædic Section of the New York Academy of Medicine, March 21, 1890.

In well-marked cases the deformity is so apparent that any one who has ever heard of flat-foot should be able to make the diagnosis at a glance. Here the os calcis is tipped over to the inside; the astragalus has rotated and slipped downward and inward, forming the marked projection at the inside of the foot; the arch has disappeared and the forefoot is so displaced outward as to become a useless appendage. In such cases we find, to a varying degree, the atrophy and spasm of muscles, with congestion and inflammation of articulations, often so marked as to be mistaken for caries of the tarsus.

In considering treatment, cases may be roughly divided into two classes:

1. Where the foot can be easily replaced in normal position.

2. Where it can not; in other words, where the dislocation is accompanied by muscular spasm, or in cases of long standing by permanent changes in bones and soft parts.

There should be no routine treatment, but each case should be judged upon its merits; and while I believe that in most instances the overstretched, weakened muscles and ligaments may more easily recover their tonicity by the use of a proper support, still, in the milder grades, simple exercises for strengthening the muscles, with the insistence on a proper walk, with proper shoes for patients able to take the necessary rest, may be entirely efficient.

So, too, the Thomas treatment of building up the inner side of the shoe, particularly in the common weak ankle cases, is a useful aid, as tending to throw the weight of the body on the outer side of the foot; but, on the other hand, it is objectionable as being a rather ungainly, triangular splint, which tends to interfere with the free flexion of the foot.

But in the second class of cases such treatment is inefficient, and to tell a working man or woman with a dislocated, deformed, and painful foot to go home and take gymnastic exercises or to simply build up the shoe with the expectation of a cure by such means, is as irrational as to give the patient salicylic acid or iodide of potassium for its relief. In this class of cases there is, in my opinion, but one rational treatment. Here we have a dislocation often more painful and disabling than any other dislocation in the body. Those who have seen such cases, crippled for months and years, suffering acute pain on any overexertion, will, I think, agree with me that this is not an exaggeration. In such cases ordinary surgical intelligence demands that the dislocation should be reduced, by manipulation if possible, forcibly after etherization if necessary. Having reduced the dislocation, having placed the foot in a position of varus and retained it there by plaster bandages until the spasm and congestion have disappeared, we come to the question of retention. If the theory of dislocation and the necessity of subsequent retention is accepted, we may at once discard all the elastic bands or springs that have been recommended, however useful they may be in the mild cases, on the ground of inefficiency, as elasticity means the probability of a relapse of the dislocation which it is the object of our treatment to prevent. Pads of felt or horsehair, or ill-fitting frogs pounded into place by a mechanic's guess-work, are unscientific and inefficient. As it is of the utmost importance to retain the foot in its proper position, as it is sensitive to pressure, and as it must support the weight of the body, too much care can not be used in assuring an accurate and comfortable brace. I have therefore insisted that a plaster cast of the replaced foot shall be taken, from which an iron pattern is made. On this a brace of thin, tempered, unyielding steel is molded. As a description of this brace has several times been published,* I need not here fatigue you with its details.

It is the result of an attempt to carry out, scientifically, the treatment on the theory that has been advanced, and practically its utility has been tested in a very large number of cases. But by itself it is, as any other appliance must be, simply one of the means toward an end. It is alleged for it that it will accomplish its purpose—that is, retention without discomfort; that by its suggestiveness it aids the patient in assuming the proper walk; that it does not interfere with the normal movements of the foot or the action of its muscles; that it is unobjectionable, as its presence in the shoe can not be detected; and that it can be worn by a person in any class of society or grade of intelligence.

Now, having the foot in normal position, a means of retaining it there, and a proper shoe, we may continue our treatment, which is to strengthen the supporting muscles, for on this means alone must be our hope of ultimate cure.

First and most important, the patient must be taught to walk with his toes in front of his body—that is, with but little divergence from the line of the walk; for if they are in this position they must be walked over—in other words, the body must be lifted by a muscular flexion of the foot, which is, by itself, the best possible exercise.

I have elsewhere more at length urged the importance of this position of the feet, with other reasons for believing it to be the natural one, and I think I am justified in asserting that, unless it is adopted by the patient, all hope of ultimate cure must be abandoned.† It is evident that this position can be assumed only when deformity of the foot has been reduced and is held reduced. With the foot placed voluntarily in proper position the weight of the body will fall on its outer border, relieving the arch from strain, while in the divergent attitude of flat-foot, the weight falling entirely on the inner border, the brace or other appliance can accomplish its purpose only partially.

Special gymnastics for strengthening the muscles of the foot have been described at length by Roth and Ellis and need only be referred to.

In order to complete the subject, operative treatment must be mentioned.

Ogston's operation seems to me needless and meddlesome. The reported cases have been in young people who might have been more easily, quickly, and satisfactorily relieved by other means.

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* Transactions of the American Orthopædic Association, vol. i; Boston Medical and Surgical Journal, June 14 and 21, 1888.

† Orthop. Trans., i.

Supramalleolar osteotomy, more reasonable in theory and harmless in practice, may be objected to on the ground that it is unnecessary and that it is more reasonable to apply our treatment directly to the affected point rather than indirectly by producing bowlegs for the relief of flat-foot.

In conclusion—

1. As no affection is more painful and disabling than severe flat-foot, so none can be more easily and completely relieved by proper treatment.

2. We should not be satisfied with relief, but, with persistent treatment, a cure is what we should hope for and expect.

Finally, in a paper of this length it is manifestly impossible to mention all the predisposing and exciting causes of flat-foot, or to give due credit to special treatment in special cases. The aim of the writer has been to urge a general working theory and treatment which will be found efficient in the great majority of cases.

47 West Fiftieth Street.

The Physiology of Taste.—"The localization of the different forms of taste sensations is a subject which is usually cursorily passed over in text-books, with the statements that the posterior third, the tip, and sides of the tongue only are sensitive, that sweet substances are best perceived by the tip, bitter ones at the back, and so on. In the Centralblatt für med. Wissen. is an abstract of extremely interesting observations by Oehrwall, who, by the aid of a lens, stimulated the individual papillæ by means of a fine brush dipped in a solution of sugar, quinine, acetic acid, and salt. He found that, as had before been observed, the circumvallate papillæ were particularly sensitive, but that on the sides and tip the fungiform papillæ only were sensitive. He estimated that in the whole tongue there were 350 to 400 of these papillæ, of which he found 125 only to respond to stimuli. Many of them appeared to be excited by all four of the substances employed, but in other cases papillæ were found to respond to one form of stimulus but not to another. Thus nineteen per cent. responded to acetic acid, but not to sugar; twenty-four per cent. which were sensitive to acid were unaffected by quinine, while fifteen per cent. which recognized sugar did not respond at all to the application of quinine. All of the papillæ were sensitive to touch, pain, heat, and cold. When stimulated by a mild faradaic current, an acid taste only was excited. He confirmed the observations of older authors that most of the anterior two thirds of the dorsum of the tongue was devoid of gustatory papillæ."—*Lancet.*

The Influence of Gastric Juice on Pathogenic Germs.—"Dr. Kurlow and Dr. Wagner, in a paper on the influence of gastric juice on pathogenic germs, which they publish in the Vrach, describe some interesting experiments which they have made on this subject, from which they are led to the conclusion that constant or specific microbes do not exist in the stomach, and those which enter it, together with sputum, food, or other ingesta, are only accidental and temporary residents, and can not live in the normally acid contents of the stomach. Gastric juice is, according to the authors' experiments, an exceedingly strong germicidal agent, and when living bacilli get into the intestinal canal it is due to various conditions entirely independent of the gastric juice. When the latter is normal and in full activity, only the most prolific microbes—such as tubercle bacilli, the bacilli of anthrax, and perhaps the staphylococci—escape its destructive action; all others are destroyed in less than half an hour. Similar influences exist in the intestines, as proved by inoculations with the cholera bacilli. On the latter subject the authors intend making further experiments."—*Lancet.*

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NEW YORK, SATURDAY, MAY 17, 1890.

MR. GLADSTONE ON THE MEDICAL PROFESSION.

In the early part of last month Mr. Gladstone presided at the opening of the residence for students recently erected in connection with the medical school of Guy's Hospital. As senior governor of the hospital it fell to the lot of the venerable statesman to deliver a speech of which the least that could be said was that it was worthy of his great reputation as an orator. After alluding with praise to the successful efforts which had recently been made to improve the financial position of the hospital, he came to speak of the change in the general consideration for medical men of which he had been witness in his lifetime, and of the comparatively short space of time that had elapsed since the doctor was nothing more than an herbalist or a barber. But at this point the speaker began to wander into error, for he described the time of Mead and Freind as that in which the medical profession began to be recognized as "a continuous profession, filling a great part in society, enjoying respect in a high degree, and recognized as a great member of the body politic." Now there is no denying that Mead was a very prominent figure in his time; but just as there were many brave men before Agamemnon, so there were many physicians of eminence in the social and political world of England long before Mead took the degree of M. D. Richard Mead was born in 1673 and was in the zenith of his fame in 1727, when George II ascended the throne. He can be said, therefore, to have flourished in the second quarter of the eighteenth century. Now, in the two preceding centuries there had been many men of medicine who occupied positions in the profession and in society as important as that of Mead. Sinacre, who was born in 1460, was one of the first scholars in Europe. A fellow of All Souls, Oxford, he continued his studies at the court of Lorenzo de' Medici, became a pupil of the famous Grecian Chalcondylas, and was said to have been the first Englishman to read Aristotle and Galen in the original. He was intrusted with both the bodily health and the education of Prince Henry, afterward Henry VIII, and became not only court physician, but the acknowledged head of the profession and the founder of the College of Physicians.

Then came Caius, or Kaye, founder of Caius College at Cambridge, the physician of Edward VI, Queen Mary, and Queen Elizabeth, author of the treatise on the Sweating Sickness, one of the most learned men of Europe; and many physicians of the early days of the Stuart period were as famous for their scholarship as for their professional knowledge. The physicians of the court of James I were men of no mean attainments. Baskerville and Paddye were scholars in every sense of the word, and Craig was a famous mathematician. Harvey enjoyed not only the patronage but the personal friendship of Charles I, and accompanied the unhappy monarch in his campaigns, being present with the army at Edgehill. The Royal Society dates from the middle of the seventeenth century, and at least one of its founders, Sir William Petty, was a physician.

As for the others who were eminent in medicine and science before the time of Mead, we need but mention Sir Theodore Mayerne, the medical adviser of four kings, the friend of Vandyck and of Rubens, who introduced into medical practice the use of calomel; Sir Thomas Browne, the author of Religio medici; Sydenham, the English Hippocrates; and Radcliffe, founder of the Radcliffe Library and of the Radcliffe fellowship at Oxford. All these and many more were flourishing long before Mead saw the light. Mr. Gladstone is astray in his knowledge of the history of British medicine, and we must, for the credit of our beloved profession, claim at least a century more of social respectability and scientific eminence than the grand old man is disposed to accord to us.

THE ASYLUM DISASTER IN CANADA.

The recent terrible calamity at the Longue Pointe Asylum, near Montreal, by which some fifty lunatics were burned alive and upward of a thousand deprived of shelter, recalls the vigorous attack upon that institution made by Dr. Tuke, some six years ago, in his book upon the Insane Asylums of America. Since the publication of this work there appears to have been no change in the system of managing lunatics in the province of Quebec. The Government, assuming the charge of the insane, transfer their responsibilities to a community of nuns, who take charge of the patients at so much a head per annum. It would seem to be considered that a person of unsound mind was once and for all incurable, and as such must be shut away from the world and fed and clothed until death relieved the community of the task of providing for his support. In this huge building, now burned to the ground, some twelve hundred patients were confined—patients representing every type of mental disorder, maniacs and monomaniacs, idiots and epileptics. The fire broke out in the bath-room of one of the female wards, in the extreme west wing of the institution, and at eleven o'clock in the morning, the very hour of the day at which every officer was on duty and every one best prepared for an emergency. The fire was discovered early, almost immediately, while it was yet confined to the bath-room, but, in spite of all efforts, it spread steadily from this one point, gradually consuming the whole structure from one end to the other. The male patients were all saved and most of the females, but it seems beyond a doubt that a large number, probably about fifty, have been burned to death, and it is sad to record that four of the sisters lost their lives in endeavoring to save their patients.

The precautions against fire in this huge institution appear to have been simply *nil*. The building was of brick, the internal supports being of wood, so that the flames spread throughout. There were no intercepting walls of brick, no fire-doors, and no fire-escapes. It would seem as if the possibility of the institution's ever being burned down had never entered anybody's consideration. Although the institution was within a few hundred yards of the River St. Lawrence, yet when the firemen arrived they found themselves powerless, owing to the fact that the water-tank of the asylum was pumped dry by one steam engine in ten minutes, after which only a very small quantity of water could be obtained, and that from the damming up of a small ditch. The kitchens of the asylum were not burned, so that the unfortunate multitude could be fed, while the barns and extensive outhouses afforded temporary shelter.

Comment is unnecessary, but let us not lose advantage of the lesson which this awful calamity affords. Of how many asylums, hospitals, and public institutions can it be said that every precaution against fire has been taken? Very few indeed, and the fact that so many have escaped is simply a matter of chance. When a large building is put up, be it what it may, hotel or hospital, asylum or jail, it is almost certain to be burned down sooner or later. It is therefore a crime for those who assume charge of such institutions to neglect in the very slightest degree any known precaution either for the prevention of fire or for the subsequent saving of life. Some of our large hospitals will some day burn, and we shudder to think of the ensuing horrors, for we know that many of them are no better protected than the one which has just been destroyed.

MINOR PARAGRAPHS.

THE IMPORTANCE OF SMALL LESIONS.

An apparently insignificant lesion is not infrequently the real cause of suffering attributed to more serious but obscure trouble, and, on account of this apparent insignificance, is overlooked. The unfortunate patient passes from one observer acute in the detection of latent disease to another equally famous for his skill in solving a difficult case, but invariably without obtaining relief, until a physician is found who treats the minor lesions present before determining whether there may be an obscure, deep-seated lesion or not. When such treatment results in the complete relief of the symptoms, the surprise of the practitioner may be equaled only by the gratification of the patient, but the success will be just as pronounced. In the Annals of Surgery Dr. Gibney furnishes a contribution to the study of flat-foot in which he cites cases which presented the symptoms of commencing flat-foot, but were cured by operations upon ingrowing toe-nails. At least one of the patients had seen several eminent gentlemen, and had submitted to various forms of treatment. Even an exploratory operation on the bone was at one time under consideration, when, behold, a simple operation on an ingrowing toe-nail relieved the symptoms completely and permanently.

PAGET'S DISEASE OF THE NIPPLE.

Over the essential nature of Paget's disease of the nipple there has been much discussion, and the matter is not yet definitely settled. By many it is held to be an eczematous process at first that by long persistence takes on a malignant character. By most it is believed to be a special form of inflammation of the skin which has nothing to do with eczema. During 1889 two French observers, Darier and Wickham, have shown that the origin of the disease is a psorosperm which sets up an inflammatory reaction that ultimately becomes epitheliomatous. They give the course of events as follows: The psorosperm gains lodgment in the skin, and, by its growth and increase, causes an irritation of the neighboring cells, which sooner or later become transformed into an embryonic condition. A thickening of the mucous layer occurs and the excretory ducts of the glands become stopped up. The process continuing, ends in infiltration of the connective tissue by the epithelial cells after rupture of the walls of the fine gland-ducts and the disappearance of the lower part of the mucous layer of the skin. They believe that these psorosperms can be found in the epithelial scales or scrapings from the raw surface in every case of Paget's disease, and that they are, therefore, of great diagnostic value. If the disease is at first superficial, the parasite being lodged in the upper part of the skin, the chance of cure should be good, remedies such as chloride of zinc, mercurials, and iodoform being indicated. Subsequently, when there are ulceration and infiltration, operative measures are indicated and should be promptly resorted to. The discoverer of the psorosperm entertains the idea that the parasite may have a causative relation to all epitheliomas.

THE TELEPHONE AND AFFECTIONS OF THE EAR.

A French aural surgeon, M. Lannois, has been devoting some attention to the effect the constant use of the telephone has upon the human ear. In the Annales des maladies de l'oreille he reports that, having been called upon to attend three cases of ear disease occurring in persons who had been employed in telephone work, he was led to examine the ears of fourteen girls who were in the service of the central telephone office at Lyons, and from this examination he concludes: 1. That the constant use of the telephone seems to exert no bad effect upon sound ears, but that it is harmful for those which are already the subject of disease. 2. That these affections consist especially of an impairment of hearing from fatigue of the auditory attention (buzzing, headache, vertigo, nervous excitability, and certain transient psychical disturbances). 3. That these effects are often of brief duration and disappear as the auditory apparatus becomes accustomed to its work, and that in all cases they cease when telephone work is abandoned.

THE LITERARY DIVERSION OF A NEUROLOGIST.

Dr. S. Weir Mitchell, of Philadelphia, is the author of a poem, or mask, entitled The Miser, which has been dramatized by Mr. Wilson Barrett and played by him with considerable success. Dr. Mitchell's theme is the power of the love of gold over the human will. The miserly hero, or central figure, of the mask confesses that, while he has been in the past "fool of woman, wit, and wine, he has at length come to love gold, something sweeter far than wanton vouchers of a woman's lips." Dr. Mitchell's experience as a neurologist has undoubtedly been of service to him in his literary analysis of that form of alienation which makes the miserable miser happy in his misery.

MULTIPLE TUMORS OF THE SCALP.

The commonest tumor of the scalp is the sebaceous cyst. It is so often met with that it is familiar to almost every one. At times these wens undergo degeneration and become epitheliomatous, though this is not frequent. Besides the sebaceous cyst, we see on the scalp common warts, papillomas, sarcomas, fibromas, and epitheliomas. All these are much less common than the wen. Of special interest in this connection is a recent contribution by Dr. Poncet in the Revue de chirurgie. He reports a case of multiple tumors of the scalp of that variety of sarcoma named cylindroma by Billroth. They were sixty in number, covered the whole scalp, and at the same time occurred on the back. They were of various sizes from that of a pea to that of a tomato; of the normal color of the skin, or red or violaceous in hue. In places they were ulcerated. The patient was a sawyer, and the tumors were supposed to have originated in the sebaceous glands on account of oft-repeated injuries received in the course of his work. In this respect they are analogous to wens, which have been known to come from injury. As in the case of wens also there was an absence of hair over the tumors, while between them the hair grew in thick tufts. They differed from wens in their histological arrangement. When they became ulcerated they resembled epithelioma, but differed from it in their benignity, as they showed little tendency to return after removal.

ALLEGED DISPENSARY MISMANAGEMENT IN BALTIMORE.

The physicians of Baltimore, especially those who reside in the northeastern part of that city, have a matter at issue with the staff of the Johns Hopkins Hospital and Dispensary on account of the over-liberal way in which the latter are said to have dispensed their charity. The complaint is that a large number of well-to-do persons have been treated gratuitously who were amply able to pay for medical attendance had they been compelled so to do, and that in this way inroads have been made upon the practice of some very deserving men. The staff has been called upon to make a proper discrimination against those who would commit trespass into the domain of the poor.

THE SO-CALLED NEW DISEASE, NONA.

Concerning the so-called "new disease," nona or nonna, about which the secular press has asserted that it was causing deaths in northern Italy, in Bavaria, and in Russia, the British Medical Journal and other medical journals say there is no new disease recognized by the medical faculties of the various localities where it has been supposed to exist. Three different types of cases are the probable source of the sensational secular reports—namely, comatose typhoid fever, somnolence following epidemic influenza, and small-pox of an irregular and severe development.

VIRCHOW'S SEVENTIETH BIRTHDAY.

The friends of Professor Virchow look forward to the celebration of that eminent man's threescore and tenth year on the 13th of next October. Dr. Waldeyer is at the head of the movement to make the event memorable, and may be addressed by any pathologist, anthropologist, or liberal compatriot, now in America, who may feel impelled to contribute to its success. There are probably not fewer than a thousand physicians in this country who have been students of Virchow's at one time or another during the past thirty years.

THE LATE MRS. SIMS.

Eliza Theresa Sims, the widow of the late Dr. J. Marion Sims, died in New York on the 11th inst., at the age of seventy-four. The announcement of her death can find no more appropriate place than in the journals of a profession in which her husband won a world-wide fame, leaving to humanity, in the triumphs of his skill as a surgeon, the means of relief from ills before incurable. To commemorate his matchless genius, there is soon to be unveiled in New York a statue in bronze, a fitting tribute of admiration from fellow-workers in the healing art and of love from woman, to benefit whom his labor was directed.

To those who know the story of his life and its brilliant achievements, which carried the fame of American surgery throughout the civilized world, there can be no tribute to his memory which is not fully shared by the brave, ambitious, tender, and loving wife who watched over, worked for, and helped to win immortality for Marion Sims.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 13, 1890:

DISEASES.	Week ending May 6.		Week ending May 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	11	2	10	4
Scarlet fever	83	10	96	5
Cerebro-spinal meningitis	2	1	5	4
Measles	365	22	386	32
Diphtheria	94	27	93	22
Varicella	12	0	10	0

The Medical Association of Central New York will hold its twenty-third annual meeting in Rochester on Tuesday, the 20th inst.

A Census of Hallucinations.—Professor William James, of Harvard University, writes to us as follows:

"May I ask for the publicity of your pages to aid me in procuring co-operation in a scientific investigation for which I am responsible? I refer to the Census of Hallucinations, which was begun several years ago by the Society for Psychical Research, and of which the International Congress of Experimental Psychology at Paris, last summer, assumed the future responsibility, naming a committee in each country to carry on the work. The object of the inquiry is twofold: 1. To get a mass of facts about hallucinations which may serve as a basis for a scientific study of these phenomena; and 2. To ascertain approximately the proportion of persons who have had such experiences. Until the average frequency of hallucinations in the community is known, it can never be decided whether the so-called 'veridical' hallucinations (visions or other 'warnings' of the death, etc., of people at a distance) which are so frequently reported are accidental coincidences, or something more. Some eight thousand or more persons in England, France, and the United States have already returned answers to the question which heads the census sheets, and which runs as follows: 'Have you ever, when completely awake, had a vivid impression of seeing or being touched by a living being or inanimate object, or of hearing a voice; which impression, so far as you could discover, was not due to any external physical cause?' The 'Congress' hopes that at its next meeting, in England in 1892, as many as fifty thousand answers may have been collected. It is obvious that, for the purely statistical inquiry, *the answer 'No' is as important as the answer 'Yes.'* I have been appointed to superintend the census in America, and I most earnestly bespeak the co-operation of any among your readers who may be actively interested in the subject. It is clear that very many volunteer canvassers will be needed to secure success. Each census blank contains instructions to the collector, and places for twenty-five names; and special blanks for the 'Yes' cases are furnished in addition. I shall be most happy to supply these blanks to any one who will be good enough to make application for them."

The International Medical Exposition.—Dr. William Pepper, of Philadelphia, writes to us as follows: "The German Minister, Count Ludwig von Arco-Valley, requests me to announce to the medical press that he has written to Berlin to have the time for the reception of entries for the International Medical Exposition, in connection with the Medical Congress, extended so that those coming from the United States may be received after May 15th."

The College of Physicians and Surgeons.—Dr. Fessenden N. Otis has been made emeritus professor of venereal and genito-urinary diseases, and Dr. Robert W. Taylor has been appointed lecturer on venereal diseases.

The New York Post-graduate Medical School.—Dr. Kelsey gives notice that the clinic for diseases of the rectum will be open during the summer without intermission.

Changes of Address.—Dr. Robert Campbell, to No. 2194 Seventh Avenue; Dr. Walter M. Fleming, to No. 13 West Twenty-sixth Street; Dr. J. S. Hawley, to No. 107 West Thirty-eighth Street; Dr. James R. Hayden, to No. 107 West Fifty-fifth Street; Dr. W. von Zehender, from Rostock to Munich, Germany.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 4 to May 10, 1890:*

By direction of the Secretary of War, the following-named officers are detailed as delegates to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to be held at Nashville, Tenn., May 20, 1890: Baxter, Jedediah H., Colonel and Chief Medical Purveyor; Woodhull, Alfred A., Major and Surgeon. The officers named will proceed to Nashville at such time as will enable them to reach there on or before May 20th. Par. 4, S. O. 107, A. G. O., Washington, May 7, 1890.

Vickery, Richard S., Major and Surgeon, is, by direction of the Secretary of War, granted leave of absence for twenty-one days. Par. 17, S. O. 103, A. G. O., May 2, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 10, 1890:*

Green, E. H., Passed Assistant Surgeon. Ordered to the Receiving-ship Dale, Washington Navy Yard.

Whiting, Robert, Passed Assistant Surgeon. Detached from the Dale, and ordered to the Nautical School-ship St. Marys.

Whitaker, H. W., Passed Assistant Surgeon. Detached from the St. Marys, and resigned, to take effect November 5, 1890.

Ross, J. W., Surgeon. Ordered to the Navy Yard, Pensacola, Florida.

Flint, J. M., Surgeon. Appointed a delegate to represent the Medical Department of the Navy at the Pharmacopœia Convention to be held in Washington, May 7th.

Dean, R. C., Medical Director, and Woolverton, Theoron, Medical Inspector. Appointed delegates to the American Medical Association Convention, to be held at Nashville, Tenn., May 20, 1890.

Society Meetings for the Coming Week:

Monday, *May 19th:* New York County Medical Association; New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *May 20th:* American Medical Association (first day—Nashville); New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and St. Lawrence (annual), N. Y.; Ogdensburgh, N. Y., Medical Association; Baltimore Academy of Medicine; Hampden, Mass., District Medical Society (annual—Springfield).

Wednesday, *May 21st:* American Medical Association (second day) Harlem Medical Association of the City of New York; Medico-legal Society; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

Thursday, *May 22d:* American Medical Association (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *May 23d:* American Medical Association (fourth day); Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *May 24th:* New York Medical and Surgical Society (private).

Letters to the Editor.

THE PAYMENT OF TRAINING-SCHOOL PUPILS.

New York Hospital, West Fifteenth Street,
New York, *May 13, 1890.*

To the Editor of the New York Medical Journal:

Sir: The article which appeared in your issue of May 3, 1890, entitled The Payment of Nurses in Training Schools, invites a reply. I venture to offer some thoughts which its perusal has suggested, and I am prompted to do so because I believe the writer's views are shared to some extent in the community.

I misunderstand the article if I do not find in it, in spite of a seeming denial, an error greater than the one it aims to expose. It is that the chief aim of a training school—the very reason for its existence—is the relief of suffering humanity. I do not so regard it. I recognize this as a high and worthy aim, and I gladly admit that it is thus attained. But I believe the *chief* aim is to educate and train worthy, deserving young women to become self-supporting. That their sphere of labor is among suffering humanity, and that this suffering is most efficiently met and most intelligently relieved by this means, are facts which no one would deny, and for which we can not be too grateful. But this is a result, not a cause. There are, undoubtedly, some who enter the profession impelled solely by that noble consideration. But nothing in this respect is true of the nurse which is not true, in even a greater degree, of the physician. I do not understand that young men enter the medical profession for any such reason. And the fact, if it be a fact, does not reflect unfavorably upon them. They enter it for a livelihood, precisely as other young men enter the legal profession or business. And in the same way, and for the same reason, young women enter the profession of nursing. I must be understood as speaking of them as a class—a few exceptions would not prove me to be wrong.

I believe it is quite time that this distinction should be made and understood. It is ignorance of it, or thoughtlessness about it, which leads to many of the false judgments which constitute the basis of complaint against the nurse in the practice of her profession. When she is regarded, as I believe she should be, as simply following her calling, she will be judged by true standards—that is, by exactly the same standards as are used in other callings or professions. Surely this is but just. Yet how rarely is the discrimination made!

And now having, perhaps, stripped away some of the sentiment, let us look at the main point of the article—namely, the matter of receiving payment while being trained.

The article asks, "In what other profession or trade is it customary to give an education for nothing?" The answer is immediately at hand. The United States Government educates young men at West Point and Annapolis, and pays them liberally at the same time. The amount is not a mere pittance, but is sufficient for support if economically used. Surely here, if anywhere, we might say the great advantage to the cadet, both in regard to present benefit and assured future employment, would render payment both unnecessary and wrong. Yet experience has proved that it is an essential feature in the system. The growth of the country and the corresponding increase in the number of young men eager for appointment in these two institutions have not altered the fact, and I believe that you will find here the true parallel for the training school rather than in those illustrations offered in the article under consideration. The young men who enter at Annapolis or West Point have had little preliminary education. They go at an early age, direct from the common schools. Many of them go from sections of the country where the school privileges are very meager. They do not enter already well educated and ready to choose any of the several professions which are open to them, as is the case with those who enter a college for the study of law or medicine. Their education in these schools is directly along one line, to fit them for just one work. And this education very often disqualifies them for other work. Their whole time is occupied during the course. They have no short sessions, followed by long vacations, during which they can engage in other pursuits, earning money to meet the expenses of the coming session. Many of them are without means, and, being thus deprived of all opportunity to gain any, they would be excluded from these professions if the allowance was stopped. Those who have studied this subject carefully have assured me that this would mean a poorer quality of men, a restricted power of selection, and general demoralization in the service. I write thus positively because I have quite recently had these views confirmed.

What is true of these young men is conspicuously true of the young women who enter the training school. The kind of work they are trained for demands peculiar qualifications. It is unreasonable to suppose that these exist only among those who have means. Indeed, if my view of the system be correct, it is not those who have means who are wanted, but rather those who have the qualifications, and are seeking some way of giving to these a market value. And small and even contemptible and degrading as the payment seems to the writer of the article, it is oftener than is generally believed the one thing which makes it possible for young women to enter upon the calling.

It is, perhaps, known in a general way, but not thoroughly appreciated, that in these changing times the financial condition of families is often suddenly reversed, and many daughters who have been brought up in refinement and even luxury are compelled to face the necessity of earning a support. To what shall they turn? The training schools open up possibilities for them which before did not exist. There they are trained for work which is congenial and to which they are adapted. I will not be understood as stating that our schools are wholly composed of such. I mean to say simply that they are peculiarly well calculated to solve the problem for this very large and constantly increasing class, and many such as these would find it impossible to enter upon the career if they were not assured of some ready money for incidental and necessary expenses.

There are other points in the article to which I intended replying, but I fear I have already taxed your patience too long.

I indorse most heartily all it says about the dignity and nobility of the calling. It is one well worth the serious consideration of any who find the necessity upon them of earning a livelihood, and an experience of many years has convinced me that the feature of payment is a wise one in that it insures a wider selection, hence a better class of pupils, than could possibly be true without it.

George P. Ludlam.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of March 12, 1890.

The President, Dr. C. K. Briddon, in the Chair.

Cases of Suprapubic Cystotomy.—Dr. F. Lange stated that on August 8, 1889, he had, in consultation with Dr. Herrman, seen the patient whom he now presented. The man was sixty-nine years of age. For the last two years he had been subject to gradually increasing trouble in passing his water.

For twenty years he had been obliged to pass his urine more frequently than normal. At last his suffering had become unbearable. Often blood and soft, sandy concretions were passed. Finally retention had set in, with chills, high temperature, and decomposition of urine. The patient's prostate being very much enlarged, Thompson's prostatic catheter was used to relieve the retention, stinking urine was withdrawn, and, a stone being felt in the bladder, suprapubic cystotomy was done on the 9th of August.

A large quantity of concretions and gravel was removed, the larger pieces, about fifty in number, varying from the size of a hazel-nut to that of a nutmeg, the whole mass only weighing two ounces in a dry condition. It was very light because chemically consisting of phosphates (specimen presented). The septic symptoms had ceased very promptly and the patient had made a good though somewhat slow recovery. The after-treatment had been done according to Trendelenburg's method, and the bladder had been irrigated frequently to obviate the existing catarrh. About eleven weeks after the operation the patient was up with an apparently firmly cicatrized wound. He had to use the catheter at regular intervals.

Four weeks later the scar broke open again and a fistulous opening was formed, through which part of the urine escaped.

After several weeks of careful treatment by rest and permanent catheterization, this opening had healed only to break open again several weeks later. Finally all endeavor to close the opening was given up and a permanent elastic tube was inserted into the bladder, which the patient still wore. About every two to three hours the bladder was emptied by removing the stopper, and the patient said that his clothes were always kept perfectly dry. To wash his bladder he passed a catheter through his urethra and injected a weak boric-acid solution, which readily escaped through the upper tube. The prostate, at the time of the operation, had protruded like a circular thick pad into the lumen of the bladder. The patient's very critical condition had contra-indicated any attempt to relieve this by an extended operation. In two other similar cases in which a portion of the enlarged prostate had been removed and a deep groove established, the patients were obliged to use the catheter. The operation had been done for stone. In another case the separately enlarged middle lobe had been removed and the result, so far as spontaneous micturition was concerned, had become a good one.

Dr. Willy Meyer showed a patient sixty-four years of age upon whom he had recently performed suprapubic cystotomy. Eight years ago it had been impossible for this man to pass his water for some three days without catheterization. At that time blood was also passed. Since then he had been troubled with pain in the perinæum and glans, frequent micturition, and difficulty in passing water, which had now and then been mixed with blood. He had recently had to pass it every half or three quarters of an hour. In the beginning of April, 1889, the speaker had been called in by Dr. C. Schram, retention having set in again. It was impossible to pass any instrument into the bladder, and the organ was punctured to relieve the immediate condition. After a few days a renewed attempt to pass an instrument into the bladder was unsuccessful. It could not then be ascertained whether or not the patient was suffering from stone in addition to hypertrophy of the prostate, and suprapubic cystotomy was therefore proposed. After a consultation with Dr. F. Lange the family gave their consent. The transverse incision was made with the patient in Trendelenburg's posture. When the bladder had been incised at the usual situation behind the symphysis, it was found that the upper wall of the prostatic portion of the urethra, which was about four inches long, had been incised. The viscus itself was situated in the right iliac fossa. No stone was found, but an enormously enlarged prostate. Its two lateral lobes were of the size of a fist each, and the median lobe was about as large as a walnut and bulged into the lumen of the bladder, cutting off the exit of urine. To benefit the patient by the operation as much as possible, the median lobe was burned away with Paquelin's cautery. A T-tube was put into the bladder, and the patient was placed in bed in the latero-abdominal posture. He made an uninterrupted recovery. When the wound was about closing up the question arose, whether it should be allowed to do so or should be kept open artificially. The speaker decided to pursue the latter course, and thus establish a safe drainage for the pelves of the kidneys, which had been in a state of chronic inflammation for some time before the operation. To avoid a constant flow of urine the speaker had had an apparatus made by Messrs. Stohlmann, Pfarre, & Co. It consisted of a short soft-rubber catheter fastened in place with a plate of soft rubber. The catheter projected about two inches beyond the plate and was usually closed with a bone stopper. The plate was secured in front of the suprapubic fistula by means of a tape running round the abdomen and also passing between the thighs as in an ordinary suspensory bandage. At the present time the patient passed his urine every two hours and a half or three hours, and at least half (now and then the whole) through the urethra. Having micturated through the normal orifice, he removed the stopper and pressed the remainder of the urine through the catheter. There was no leakage whatever by the side of the catheter. The patient had been greatly improved in his general health, felt comfortable, and was perfectly satisfied with his condition.

Dr. Meyer presented another patient, a man, sixty-five years old, from whom he had removed a large stone by suprapubic lithotomy three months before, after the man had suffered for eleven years. He had double inguinal hernia. Nevertheless, the transverse incision was practiced in the shape of a U, the middle of it corresponding to the symphysis, and the two lateral portions running parallel with the spermatic cords. The hernial sacs did not come into view. A short longitudinal incision was added in the median line for the sake of easier manipulation. This additional incision was usually unnecessary. The bladder was opened by a comparatively long incision—about two inches—to guard against tearing the borders of the wound in extracting the stone (specimen shown), as the speaker intended to suture the bladder. Before this was done, external urethrotomy was performed to provide for easier drainage. This plan of adding external urethrotomy for the purpose of drainage in cases of suprapubic cystotomy where the bladder was immediately closed by suture had first been published by Dr. E. L. Keyes (Journal of Cutaneous and Genito-urinary Diseases, July, 1887). He thrust a stiff, straight bistoury into the urethra, near the apex of the prostate, without any preliminary dissection, a steel staff with a broad, flat groove having been introduced into the bladder before, and made only a very small opening in the urethral wall, just large enough to admit a good-sized soft-rubber catheter. The latter was pulled into the bladder by means of a coarse string fixed inside the tip of the catheter at one end and threaded into the eye of a long silver probe at the other. Of course, the probe was first introduced into the bladder and then passed through the suprapubic wound. Dr. Keyes was very well satisfied with this method. Last year Burckhardt, of Stuttgart, Germany, had highly recommended perineal drainage in cases of vesical suture after epicystotomy, having tried it as early as in 1887 (Ctrlbl. f. Chir., 1889, p. 737). After having dealt with the intravesical trouble he carefully dissected down to the membranous portion of the urethra, opened it by a small incision, and introduced a stout drainage-tube of about a third of an inch in diameter on the point of a large, stout probe which had been lubricated with oil. It was pushed up to the posterior wall of the bladder, guided by a finger introduced through the upper wound. Finally a number of lateral openings were cut in that portion of the tube that was situated in the bladder, and its lower end was secured by a silver-wire plate-suture in front of the perineal wound. This having been attended to, the bladder was stitched and the outer wound loosely packed with iodoform gauze. The speaker had employed this latter procedure, from which he had seen a very satisfactory result in another case of epicystotomy a short time before, but he had also closed the external wound with sutures so as to leave only a very small opening in the median line, where the strips of iodoform gauze which loosely filled the prevesical space were carried out. The patient had made a quick and painless recovery, feeling comfortable at all times. There never was any leakage, the urine being siphoned off into a jar under the bed. The wound of the bladder and of the abdominal wall healed by primary union. The perineal tube was removed on the seventh day. The patient got up on the eighteenth day after the operation, and was discharged cured four weeks after his admission. The speaker was very much pleased with this—the ideal—method of after-treatment of the suprapubic incision, and intended to try it again in suitable cases. If the bladder must be drained without suture, of course he would always resort to the T-drainage-tube introduced through the suprapubic incision, the patient being kept for the first three or four days in the latero-abdominal posture.

Dr. L. A. Stimson showed a male patient upon whom he had operated for the removal of a vesical calculus. The patient had, about a year ago, undergone lithotrity, or litholapaxy, at the hands of another surgeon. This had been followed by a return of the symptoms, and the patient had come to the hospital in January last. The speaker had decided to do the suprapubic operation. He had made a transverse incision, carrying it down until the face of the bladder was reached. The bladder was then opened by a longitudinal incision and the stone removed. He had not adopted perineal drainage. The incision he had made was about four inches long. It would be seen to be not entirely healed, though there was no leakage, and there had been none for some three weeks. As the patient had come out of ether he had torn the tubes from the wound, necessitating its reopening. The drainage had worked well, and there had been no wetting of the bed. The bladder had been placed entirely at rest by the complete drainage. After a week the drain was removed and a catheter placed in the urethra. This was retained for several days, and was then introduced several times daily for about ten days. At the end of three weeks there was no longer any leakage from the wound, and the patient was allowed to pass his water naturally. The speaker had been struck with the very ready access to the bladder given by this incision. So far there was no weakness in the anterior muscles of the abdomen and no ill effects seemed likely to ensue. He thought the method was the ideal one for operations upon the interior of the bladder.

Dr. J. A. Wyeth said it seemed to him that for the removal of stone the longitudinal incision alone was better. For tumors, or conditions where a larger opening was indicated, it had been his custom to make a T-incision. He did not see any use in dividing the recti muscles when it was possible to do the operation thoroughly without it. Thus far he had done this operation twenty times. Dr. Meyer had spoken of an incision two inches in length upon the anterior face of the bladder. The speaker had brought a rare and beautiful specimen of mulberry calculus with him, which he had removed about a fortnight ago. It was quite a good-sized stone, and had been taken from the bladder through an opening barely an inch long. He did not admit the necessity of such an extensive incision. The T-drain had been introduced, and the wound had healed in a week. This lad had had stone from childhood. He was now ten years old. No sutures had been used, the wound closing readily, so that on the sixteenth day there had existed no leakage.

Dr. Meyer said that he could have removed the stone through a shorter incision, but by making one sufficiently large he had avoided the chance of any tearing. As to drainage in cases of suture of the bladder, he thought he preferred to introduce a drain through the posterior urethra, as it was better borne than the permanent catheter running through the whole length of the urethra.

Dr. Charles McBurney said that the most interesting feature in connection with suprapubic cystotomy was that of drainage; the incision was comparatively easy, but the subsequent treatment was extremely difficult. In some cases abdominal drainage had seemed to the speaker very unsatisfactory, and he could hardly understand how it had been followed up so long when the other method was so much more surgical.

The perineal drainage-tube could be introduced with great facility. If a catheter was left in the urethra, from the bladder to the meatus, it was a foreign substance, producing more or less irritating action upon the urethra, the deeper portion of which was not drained, and that was where the septic symptoms originated when instruments were left in the urethra. If a perineal opening was made, the deep portion of the urethra secured complete drainage, and he had yet to see a case in which septic symptoms had supervened when this method was employed.

Dr. Wyeth said his objection to the method was that it was not necessary. No such operation was entirely free from danger. One of the most difficult operations he had ever had to undertake had been for the closure of a fistula left as the result of perineal drainage.

Dr. L. S. Pilcher cited a case in which he had had occasion to open the bladder for the treatment of ulcer at its base. In this instance a transverse incision had been made. As the tissues were being dissected away from the posterior surface of the symphysis pubis it was found that the peritonæum constituted the upper wall of the wound; that the peritonæum descended low and was attached to the pubes. But for the transverse incision, which gave ample command of the operative field, it would have been impossible to make the necessary careful dissections in this case. Though such instances might be rare, they certainly did occur from time to time, and while the vertical incision was to be preferred as a rule, still there was no doubt the field of operation was more accessible by the transverse. As to drainage through the perinæum, it was only in very rare cases that it could be necessary.

Dr. Wyeth had never met with any difficulty by reason of the presence of peritonæum in the suprapubic operation. He made it a point that the primary incision should come three quarters of an inch below the upper posterior border of the pubes. He always divided the prevesical fat below, lifting it from the bladder-wall, and had never seen the peritonæum.

The President had seen the peritonæum come down to the neighborhood of the pubic arch, but did not think there could be any difficulty in distinguishing it when it bulged into the wound, or in keeping it out of the way during the process of the operation. His own impression had been that a vertical incision sufficed for the extraction of stone, while for a tumor the transverse incision might be indicated. He had been surprised at the facility with which the bladder could be drained from the opening in the abdominal wall.

Dr. Pilcher said that, in cases where it was deemed best to suture the wound in the bladder and establish drainage through the urethra or perinæum, he should certainly advocate the establishment of a perineal opening and drainage.

Cases of Osteomyelitis of Tibia with Multiple Abscesses, illustrating Points in Differential Diagnosis.—Dr. V. P. Gibney presented a number of typical cases. The first was that of M. K., female, aged sixteen, who was admitted to the Hospital for Ruptured and Crippled, October 29, 1889. Mother had died of phthisis; father had died when quite young, cause not known. The patient was sickly during early life; she had been an inmate of an orphan asylum for eleven or twelve years, and very little about her early history could be obtained. Five years ago she had fallen and had struck her shin against a step. A few days afterward the leg had swelled a little and was painful. The acute symptoms had soon subsided, but there had followed a little increase in size, and this had progressed up to the date of her admission, so that the difference in size in the upper portion was an inch and three eighths, in the lower portion a half inch. The fullness was quite uniform, tender on pressure, not presenting any sharp ridge, but a rounded induration. The pain was greatest at night, especially in the early part of the evening. The first impression was that it was one of tubercular osteitis, but the history of traumatism and the uniform enlargement of the tibia in front seemed against this diagnosis. The various opinions expressed in diagnosis were about as follows: "Tubercular osteitis or specific osteo-periostitis, hereditary." "Hereditary specific osteitis without any doubt." "Diffuse osteoma, non-malignant. Not a case for operation, but a good one to let alone. Traumatic in origin." "Enlargement of bone, from chronic osteitis, due to an abscess deep in the bone." "Traumatic osteomyelitis. Should be operated on. Will very likely find numerous foci of pus."

On the 29th of November, assisted by Dr. McBurney, the speaker had made an incision over the tibia, along the crest, from the proximal to the distal end. The periosteum was divided and the bone exposed. There was much thickening of the periosteum and a roughened condition of underlying bone. With a chisel and mallet a large amount of bone was removed from the anterior aspect, beginning just below the head and extending to within about three inches of the malleoli. After chipping away to the depth of about three quarters of an inch, a focus of pus was found in the middle of the shaft, a similar one at the upper third, and one in the lower third. The central one was the smallest, and had contained about one drachm, the upper one about two drachms, the last one about a drachm. The whole medullary canal was thoroughly scraped until healthy bone was reached. The cavity was packed with iodoformized gauze, and a drainage-tube inserted in its upper and lower extremity. It was necessary to remove the dressings two days later on account of oozing. From this time on the case had given very little trouble, other than the occurrence of one or two convulsive attacks, which seem epileptoid in character. The patient's condition had been very much improved, and all except the upper and lower cavities had healed.

The second case was that of a female, seven years of age, admitted December 12, 1889, for necrosis of the tibia. An elder brother was admitted at the same time for a similar disease. The first signs had appeared in May, 1889, without any distinct cause. There were three or four openings along the crest of the tibia, on the left side, through one of which a bit of necrotic bone had projected. On the 17th of December, under ether, the cavities were thoroughly exposed by chipping away the intermediate layers of bone, and the sequestrum was removed. It was about five inches long and three quarters of an inch in diameter. There were two sinuses at the lower end of the bone, extending down into the epiphysis. These were thoroughly scraped, the cavity was dried and packed with decalcified chicken bone. Iodoform was sprinkled over each layer, until the cavity was very nearly filled. The periosteum and skin were sutured separately over this, and over all a bit of protective with iodoform and gauze. On the 1st of January there was a perceptible odor. The dressings were removed, and at the lower portion of the leg, about the middle, there was a little pus. The suture had broken down. The parts were dried and dressed again, and on the 16th the superficial layers were dark and presented a rather unhealthy appearance, so these were scraped out gently, leaving about one half. The parts had about healed now. The patient was presented for inspection. At no time was the decalcified bone hard, and the result, so far as new bone was concerned, was unsatisfactory. As a packing for the wound, which packing had served as a net-work apparently for a healing process, it was a success.

Case three, a female, aged eight; an Italian from Sullivan Street. Admitted November 14, 1889, for the correction of deformity of the femora and tibiæ. There was an antero-lateral curvature of the femur, with a rather sharp anterior and lateral curvature of tibia and fibula. The attempt was made first to correct the leg deformity. On November 26th, under ether, a cuneiform osteotomy was done on the right side, close approximation of the ends of bone being obtained. The plaster dressing was carried to the upper third of the thigh only. The temperature for the next few days had indicated that all was not going well, and on the 6th of December it was found, on taking the dressings down, that there was non-union. Drills were inserted, the parts dressed again, but this had subsequently failed, and finally a casing of steel with three vertical bars, one for each side and one behind, was accurately fitted to the leg, covered with protective, and the parts dressed so that the wounds could be attended to without further difficulty. The plaster of Paris was carried then up over the hip and to the axilla. The ends of the bones had given way, but finally very good union had taken place.

The last case was that of a boy, about six years of age, who was admitted to the hospital on November 12, 1888, for the correction of a "cork-screw" pair of legs. The femora were curved laterally and anteriorly. The tibiæ and fibulæ were curved forward and laterally. Under ether, November 16th, the speaker had done a sextuple osteotomy. On the 24th the plaster was removed, on account of the showing of the temperature chart, and there was a profuse discharge, containing blood and pus, through the wounds on the leg. On November 26th brackets were applied, and fenestra cut in the plaster, through which the limbs were dressed. On January 10th the external wounds had healed. On the 23d osseous union seemed perfect on the left side, but the right side was imperfect. Discharged February 6th, and had reported from time to time in the Out-patient Department. Last spring, now nearly a year ago, a small portion of the tibia was removed by a pair of forceps through the wound. This was about the size of a peanut. After this the repair took place quite rapidly, and for six or eight months the boy had had no dressings on, his shoes were built up on the inner side, and the result was very fair. Of course, he presented a certain amount of deformity still, but this would in time disappear.

Dr. Lange thought the question of treatment of large bone cavities quite an important subject. He had tried it after the method of Senn, and was sorry to say that it had failed. In one case of large central abscess cavity in the femur it had been necessary after three weeks to remove the bone chips. He had found them unchanged. The patient was badly nourished, and perhaps some infection of the cavity might have occurred from without after the operation. In both the cases in which he had tried the method very extensive incisions had been made through the vastus interni and all the vessels had been carefully tied with double ligatures. Some suppuration had resulted under the large permanent dressings at a point distal from the circulation, from necrosis of muscular tissue, and this had necessitated opening the whole wound, and possibly may have caused infection of the cavity. The bone chips had not even been softened. He had at another time filled a cavity with iodoformized catgut, but after some five or six weeks suppuration had occurred. In the cases he had cited there had been very large cavities of long standing, and perhaps in more recent conditions, where the lining of the cavity could be better disinfected and was more vascular, the chances of a good result might be better. At any rate, further trial was very desirable.

The President said that some six months ago he had prepared to carry out Senn's method of the treatment of bone cavity and had taken the greatest pains in respect to preparing the bone and for the observance of the required technique. As soon as opportunity served he had tried it with great care as to detail. The result was a failure, the decalcified bone being all discharged. The case was one of necrosed tibia which had eventually got well, but certainly not because of the decalcified bone.

Operative Treatment of Flat-foot by Supramalleolar Osteotomy.—Dr. Willy Meyer read a paper on this subject. (To be published.) The author presented a number of interesting cases in which he had operated with so far practically good results, the patients being all able to resume their vocations after protracted periods of disability.

The discussion of Dr. Meyer's paper was postponed until the meeting of March 26th.

Musculo-spiral Paralysis from Traumatism.—Dr. Stimson presented a young man who had some time ago fractured his left humerus at about its middle. It had been treated in the usual way, had done well, and the patient was in due course discharged. He had come back with a well-marked musculo-spiral paralysis in the same arm. The speaker had made a free longitudinal incision, exposing the nerve. It was found to have become involved in the callus, occupying a bony canal about an inch long, and narrowed by the pressure. Above and below this point it was entirely free. The nerve was liberated and the wound healed kindly. In five weeks the patient was able to move his fingers slightly, which ability had steadily increased until at the present time restoration was complete.

Complicated Penetrating Wound of Thorax and Abdominal Cavities; Laparotomy; Recovery.—Reported by Dr. Frank Le Moyne Hupp.

The President reported the following case: Francisco R., aged thirty-seven. Patient was admitted to the Surgical Division of the Presbyterian Hospital, February 5th, in the evening. He gave a history of having been stabbed in the left side above the free border of the ribs, with a long double-edged dagger, in the hands of an inebriated Italian. Through the opening there had protruded a mass, about three inches long and an inch wide, fully occupying the length of the incision. There was very little external hæmorrhage. The patient, when examined by the ambulance surgeon, was suffering considerable pain and a moderate amount of dyspnœa. There was very little shock or other constitutional disturbance, notwithstanding the fact that he had walked fifteen blocks to the station-house from the place where the injury was received. The protruding mass was carefully wrapped in antiseptic gauze, and the patient was brought to the hospital. He was a robust man, not anæmic. Temperature, 99·5° F.; pulse, 100. Urine pathologically of no interest. There was a wound in the ninth intercostal space of the left side, in the midaxillary line, four inches above the tip of the twelfth rib and eight inches from the median line. It was proved beyond question that the prolapsed tissue was omentum. The patient was at once reported to Dr. Briddon, who, on examination, satisfied himself that this was a case urgently calling for the performance of a laparotomy.

Operation—11.15 p. m., February 5th.—Ether narcosis. The details of antisepsis were rigidly carried out. An incision six inches in length was made on the left side, an inch from and parallel to the free border of the ribs. This incision was deepened, cutting through the successive layers of abdominal muscles; the peritonæum was opened to the extent of the abdominal wound. The protruding omentum was again disinfected, and, by traction made by two fingers in the abdominal wound, the mass was drawn through the external thoracic and diaphragmatic openings into the abdomen. Two catgut sutures were placed in the thoracic wound to prevent the ingress of air. On exploration, an opening was found in the diaphragm sufficiently large to admit the finger; no attempt was made to close this opening. Nine deep sutures of silk-worm gut, embracing the peritonæum and intervening structures, were used to approximate the margins of the abdominal wound. A firm antiseptic absorbent compress was applied, patient vigorously stimulated and put to bed, surrounded by hot bottles and covered with hot blankets.

Feb. 6th.—Recovered from ether without any untoward symptoms. Morning temperature 100°. Pulse of good quality.

7th.—Temperature 100·8° Complete paralyses of left arm and forearm noticed. Vomited several times during the night; vomited matter was white mucus. Tympanites began to develop early this morning, and was at 10 a. m. decidedly marked.

8th.—Temperature range 99° to 100·5°, pulse 116. Patient vomited several times during the early part of the night, the fluid contents of the stomach stained green. This morning he vomited a brownish-black syrupy fluid. Abdomen reached its maximum degree of distension last night; this morning the distension was not so marked; the rectal tube succeeded in withdrawing a large quantity of gas. Repeated enemata, sulphate of magnesia, and calomel were used, but were followed by only a very small fæcal movement. Respiration was thoracic. At five o'clock, p. m., to-day gastric lavage was begun and was continued every two hours during the night. At the first washing, eight quarts of tepid water were used, a quart at a time, and not until the last pint was introduced did the fluid return clear. After each washing, eight ounces of warm, peptonized milk were introduced through the tube. Nutritive enemata were given every four hours of sarcopeptones, milk, and whisky.

9th.—Gastric lavage continued to-day Ever since the first washing the tympanites has been progressively diminished and the vomiting grown less frequent. Temperature 99°, pulse 108.

10th.—Lavage continued throughout all of yesterday every three hours, and during the night every four hours. There had been no vomiting for twelve hours, and patient had had several spontaneous movements from the bowels. Abdomen to-day was flat; patient was comfortable. Lavage discontinued.

11th.—Pulse, respiration, and temperature normal. Patient expresses himself as being hungry. Had four diarrhœal movements last night.

From this point the patient's recovery was uninterrupted; the diarrhœa yielded kindly to treatment, salicylate of sodium, bismuth, and opium having been used.

The power in his left arm had gradually returned; the galvanic current was used daily.

False Cartilages in the Knee Joint and Neighboring Synovial Sacs.—Reported by Dr. Frank Le Moyne Hupp.

The President then presented the following case: James

M., aged thirty-four, painter by occupation. There was neither a morbid family nor previous morbid personal history. In 1875 patient injured his right knee while lifting a heavy weight; there was some subsequent inflammation which lasted two months and then disappeared. But some months after apparent recovery he noticed, when walking, that the knee bent inward, and since the accident stated that the limb has never been quite straight.

Within the last two or three years he had been unable to fully flex the knee without experiencing considerable pain. More recently he had noticed a movable hard swelling below the knee on the outer side. At times he experienced sudden excruciating pain in the offending joint and a feeling of faintness when walking, but these symptoms had been of only temporary duration, and rest with manipulation had always brought relief.

On admission, all of the vital signs were normal. In the outer infrapatellar and suprapatellar spaces of the right knee joint several hard, rounded bodies could be felt. They were movable on manipulation and gave rise to no pain. There was moderate effusion into the joint and flexion was possible through an arc of about 46°. By reason of interference with his daily labors, relief was sought.

February 2d.—Patient was prepared in the usual way for operation.

Operation by Dr. Briddon—February 3d, 2.30 p. m.—Ether narcosis. Every attention was paid to antiseptic detail. A sand-bag was placed under the knee and a longitudinal incision three inches in length was made over the external condyle of the right femur. This incision was deepened until an accessory or supplementary pouch of synovial fluid was opened. The sac was explored and found to contain four or five bodies of about the size of a large pea, flattened out. These bodies were more or less smooth, of a grayish color; some were nodulated. They all had a fibrous material covering them, obscuring an underlying hard, bony material; their external surface had an osteocartilaginous appearance.

The synovial pouch proper was opened and on exploration was found to contain ten or twelve of these offending bodies. Some of them were free in the joint, others were fixed fast in the wall of the capsule and had to be dissected out. Still others were held in place by fibrous pedicles; some were attached to long, thin ligamentous bands.

At the junction of the articular with the non-articular femoral condyle of the inner side a rough finger-like border of osseous material could be felt. On the extreme inner aspect of the synovial sac a number of the floating bodies were found.

An oblique incision was made over the inferior external patellar region, and about ten more of the floating cartilages removed from the bursæ situate beneath the tendon. There were thirty-two floating cartilages in all, varying in size from a split pea to a flattened-out English walnut. The largest weighed eighty-four grains and measured in its greatest circumference two inches and three quarters. The knee joint was thoroughly irrigated with a five-per-cent. solution of carbolic acid. That the irrigating fluid coagulated the albuminous material in the joint was demonstrated by the flocculi that poured out.

The synovial sac proper was stitched with fine catgut; the wounds in the supplementary neighboring sacs were likewise closed. All bleeding points were promptly arrested and the integumentary incisions closed by continuous catgut sutures. The wounds were dressed with an antiseptic absorbent dressing and a plaster-of-Paris splint with liberal padding of cotton applied, extending from the upper third of the thigh to the ankle.

Patient was stimulated and put to bed.

February 20th.—The splint was removed and union *per primam* had occurred. Uninterrupted recovery.

March 13th.—Patient walked about the ward on crutches, and each day was able to move the joint farther than the preceding day.

Compound Fracture of the Pubic Arch from Impalement.—Reported by Dr. Frank Le Moyne Hupp.

The President also narrated the case of Samuel C., aged fifteen, who was admitted to the surgical division of the Presbyterian Hospital on the afternoon of January 30, 1890.

He gave a history of having fallen astride an iron fence on which he was playing. One of the sharp-pointed pales, nine inches in length, entered the perinæum, inflicting an ugly lacerated wound about two inches in length, fracturing the left half of the pubic arch.

Patient was brought to the hospital in an ambulance and examined immediately by the attending surgeon, Dr. Briddon. There was a considerable amount of oozing from the wound, and the patient was suffering from mild shock.

The index finger was introduced into the wound; it passed upward and backward, but was not able to reach the limit of the cavity. A comminuted fracture of the descending ramus of the left pubic bone was distinctly made out, and a fissure passing through the body of the pubes just internal to the crest. A very careful examination of the bladder, urethra, and rectum revealed the astonishing fact that these organs had escaped uninjured. The wound was enlarged to the anterior anal margin and several small fragments of bone removed. The wound was packed with iodoform gauze and a T-bandage applied. The patient was catheterized and the urine found to be normal.

For a few days there was retention of urine requiring the use of a soft catheter. During the second week there was an escape of fæces from the wound, but the communication with the bowel was so high up that it could not be made out; it gradually ceased as the wound filled with granulation, and in other respects recovery was uninterrupted.

Miscellany.

The Tenth International Medical Congress.—By direction of Count Arco, the German Ambassador in Washington, the Consul-General of the German Empire in New York, Mr. A. Feigel, sends the following, with the request that the medical and secular press of the country give it the greatest possible publicity. It will be noticed that this circular contains a great many particulars not contained in those previously printed:

Conditions and Rules referring to the International Medical and Scientific Exhibition in Berlin, August, 1890.—I. The exhibition will be opened at 11 a. m. on August 2, 1890, and closed, probably, on August 11th, in the Landesausstellungs Park; the sections of the International Medical Congress will meet in the same place. Provision will be made for dark chambers, rooms for experimental purposes, and appropriate demonstrations by experts. The exhibition is limited to the following objects: New or improved scientific instruments and apparatuses for biological and strictly medical purposes, inclusive of those for photography and spectral analysis applicable to medicine. New pharmacological, chemical, and pharmaceutical materials and preparations. New foods. New or improved instruments for operations in medicine, surgery, special branches, electrotherapy, etc. New plans and models of hospitals, convalescent homes, and establishments for disinfection and bathing, arrangements for nursing and transport. New hygienic apparatuses. New tables and charts of a statistical nature. Preparations and models. Teaching apparatuses. Medical literature.

Applications are expected before May 15, 1890,* and will be received by the Secretary-General of the Congress, Dr. Lassar, Berlin, N. W., Karlstrasse 19. They must be marked "Ausstellungsangelegenheit," and accompanied with a printed visiting or business card, containing name and address.

II. Of each application there ought to be two copies. It is requested that it should contain a brief and accurate description, fit to be used in the compilation of the catalogue.

III. The decision as to the admission of all or part of the proposed exhibits rests with the special or general boards of organization; they will send an immediate reply.

IV. The cost of every square metre or part of a square metre of floor or table suface is ten marks, of wall surface six marks. Two metres in height of the wall are free for those adjoining the wall. Exhibits in the interior of the hall pay for one half of the size of the walk immediately surrounding, in addition to the space occupied.

V. Tables will be furnished. Cases, shelves, and repositories must be procured by the exhibitors, under the supervision of the committee. Electric light, steam power, etc., can be had by special arrangement.

VI. Inflammable objects are excluded. Insurance of those admitted will be secured free of cost, if notice of their value has been given.

VII. Packing and unpacking are free of expense to foreigners. Great care will be taken, but no responsibility. Expressage by Messrs. Jacob und Valentin, Berlin, O., Holzmarktstrasse 65.

VIII. The exhibits must be delivered on or before July 20th. Foreign goods will be free of duty, but certificates—to accompany the goods—ought to be obtained from the exhibition office, Karlstrasse 19.

Form of Application.—The undersigned, being acquainted with the conditions and rules referring to the International Medical and Scientific Exhibition in Berlin, August, 1890, requests admission for the following exhibits:

Space wanted: { Floor surface, Length, Breadth,
{ Wall surface, Breadth, Height,

Exhibition will take place—

(*a*) In own case: Adjoining the wall?
Inside?
(If the latter, add a diagram.)

(*b*) On tables to be furnished by the committee.
In flat cases?
Exposed without them?
On shelves?
The wall surface above the table is required to the height of?

(*c*) On the floor, without case, etc.

(*d*) As drawings, diagrams, or in narrow cases attached to adjoining walls?

Value for insurance purposes:
Special requests:
Brief notes for catalogue:
1890. Name, etc.

The Johns Hopkins Medical School.—A lady who has accomplished a great deal in furthering educational facilities for American women has issued the following circular:

"There is every reason to believe that the medical school of the Johns Hopkins University will be opened within the next few years. The embarrassment under which the university was suffering has proved to be only temporary, and within the past year it has received in gifts and bequests half a million of dollars; nevertheless, it is not fully prepared to meet the large additional expenditure entailed by the complete organization of the school. In order to hasten the opening of this school and to secure for women the most advanced medical education, it is proposed to raise the sum of $100,000 or more, to be offered to the trustees on condition that women whose previous training has been equivalent to that of the preliminary medical course of the university be admitted to the school, whenever it shall open, on the same terms as men.

"The Johns Hopkins Hospital is already open and fully organized. Its buildings, which cost $1,600,000, are especially planned for scientific purposes and it has its own separate endowment of $3,300,000. It is admitted that the professors and students of the medical school attached to this foundation will have unusual opportunities to carry on scientific research and higher medical studies. It was the intention of their common founder that the hospital should combine with the university in organizing and perfecting the medical school, and he states to the trustees of the hospital that 'it is my wish and purpose that the institution shall ultimately form a part of the medical school of the university.' The leading physicians and surgeons of the hospital have accordingly been made professors of various branches of medicine and surgery in the university, and during the present year a few courses of graduate lectures have been delivered in the hospital to physicians, among whom were three women. That the course of the medical school will be of the highest grade would be inferred from the high standard heretofore maintained by the university and by the appointments already made, even had not the university insured the graduate character of the school by organizing, in 1882, a three years' 'preliminary medical course,' including biology, chemistry, and physics, to be required for admission to the school.

"It is not expected that the Medical School of the Johns Hopkins University will take the place of the medical schools for women now in existence, but rather that it will afford to women in America those opportunities for advanced medical training which they are at present compelled to seek in the great foreign schools of Vienna, Paris, and Switzerland. It is believed that the object thus proposed will seem of the greatest importance to the friends of the medical education of women in all parts of the country. There is every reason to think that the gift with the proposed condition will be accepted if offered at the present time, but that, should the medical school open without women among its students, it would be difficult to secure their admission later. Local committees of women will be formed in Baltimore, Washington, Philadelphia, New York, Boston, Chicago, and San Francisco, and the names of the members of the different committees will be attached to this circular. An attempt will be made to raise the money before June 1, 1890; and all contributions will be regarded as conditional on a total contribution of at least $100,000, and on the acceptance of the condition by the trustees."

The Journey to Nashville.—The General Eastern Passenger Agent of the Shenandoah Valley Route has issued a circular giving the following information:

All Rail.—Rates of one and one third fare on the certificate plan have been agreed upon from all points east of Cincinnati and Buffalo. Straight or single-trip tickets will be purchased, taking on the going trip from the agent from whom ticket is purchased a certain printed form of receipt, stock of which coupon ticket agents are supposed to keep on hand. This receipt, when indorsed at the Convention as provided, by its chairman or other officer, will entitle the passenger to purchase of the ticket agent in Nashville ticket back to point at which ticket was first purchased at one third the regular rate. The following are some of the round-trip rates to Nashville, figured on this basis: From Boston, $36.65; from New York, $34.14; from Philadelphia, $30.80; from Harrisburg, $27.07; from Baltimore, $27.07; from Hagerstown, $25.87; from Richmond, $23.55. These rates do not include sleeping-car fare, but simply railroad fare or transportation; sleeping-car fare is extra, and, when occupying the sleeper both day and night, costs as follows to Chattanooga: From New York, $6; from Philadelphia, $5.50; from Harrisburg, $5; from Washington, $4; from Norfolk, $4. Through sleeping-cars run only to Chattanooga. Seats in Pullman cars, Chattanooga to Nashville, 75 cents; berths, $2. Two people can occupy one berth if desired without extra charge.

Rates above quoted apply via the following-named routes:

Route No. 1.—Via New York, Philadelphia, Baltimore, Washington, Lynchburg, Roanoke, Chattanooga (Lookout Mountain), Nashville.

Route No. 2.—New York, Philadelphia, Baltimore, Washington, Shenandoah Junction, Luray, Natural Bridge, Roanoke, Bristol, Chattanooga (Lookout Mountain), Nashville.

Route No. 3.—New York, Philadelphia, Harrisburg, Hagerstown,

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* Count Arco has made such arrangements that applications coming from the United States will be received until the 1st of July.

Luray, Natural Bridge, Roanoke, Bristol, Chattanooga (Lookout Mountain), Nashville.

Via Steamers to Norfolk; thence all Rail.—From Boston. Route No. 4.—Merchants & Miners Steamship Co.'s steamers to Norfolk, thence all rail via Petersburg, Lynchburg, Roanoke, Bristol, Chattanooga (Lookout Mountain), Nashville. Returning same route. Rate, $33.65, including meals and berth in state-room on steamer (only) going and returning.

From New York. Route No. 5.—Old Dominion Steamship Co.'s steamers to Norfolk, thence all rail via Petersburg, Lynchburg, Roanoke, Bristol, Chattanooga (Lookout Mountain), Nashville. Returning same way. Rate, $30, including meals and berth in state-room on steamer (only) going and returning. Tickets on sale at 303 Broadway, May 15th to May 20th, inclusive, and good for thirty days.

Route No. 6.—Same as route No. 5, going to Nashville and returning to Roanoke, thence back to New York via the Shenandoah Valley route and Penn. R. R., Natural Bridge, Luray, Hagerstown, Harrisburg, and Philadelphia. Rate, $40, including meals and berth in state-room on steamer (only).

Route No. 7.—Same as route No. 6 up to Luray, thence leaving the Shenandoah Valley at Shenandoah Junction, back to New York by the B. & O., via Washington, Baltimore, and Philadelphia. Rate, same as route No. 6.

The Use of the Buffalo Lithia Water after Operations.—In a letter quoted in the Virginia Medical Monthly, Dr. Hunter McGuire, of Richmond, says: I use Buffalo Lithia Water very freely in my hospital. After every case of laparotomy I give this water for its diuretic properties, and because the stomach bears it so well—often retaining it when everything is rejected. Indeed, I use it freely after nearly all my surgical operations. It is especially valuable in suprapubic cystotomy. Many years' experience in its use only confirms the good opinion I have so often expressed in regard to it.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for May 9th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y......	May 3.	1,610,813	741	..	..	..	..	..	..	1	12	28	27	5
Brooklyn, N. Y......	May 3.	859,612	342	..	..	..	..	..	..	1	1	28	1	1
Baltimore, Md.......	May 3.	504,343	180	..	..	..	..	..	..	4	3	6	11	...
Boston, Mass........	May 3.	420,000	179	..	..	..	..	..	..	..	..	2	..	....
Cincinnati, Ohio.....	May 2.	325,000	128	..	..	..	..	..	..	5	1	6	3	....
Detroit, Mich........	April 29.	250,000	75	..	..	..	..	..	..	..	2	4	..	....
Washington, D. C...	May 3.	250,000	94	..	..	..	..	..	..	3	1	..	..	1
Cleveland, Ohio.....	April 19.	240.310	110	..	..	..	..	..	..	2	1	1	1	1
Cleveland, Ohio.....	April 26.	240,310	120	..	..	..	..	..	..	3	..	4	7	1
Pittsburgh, Pa.......	May 3.	240,000	103	..	..	..	..	..	..	4	..	4	2	....
Louisville, Ky.......	May 3.	227,000	67	..	..	..	..	..	..	..	..	1	..	....
Milwaukee, Wis......	May 3.	210,000	68	..	..	..	..	..	..	2	1	3	..	....
Newark, N. J.......	April 26.	191,938	92	..	..	..	..	..	..	1	1	2	..	1
Rochester. N. Y......	April 26.	130,000	43	..	..	..	..	..	..	..	1	2	..	....
Providence, R. I.....	May 3.	130,000	62	..	..	..	..	..	..	..	..	1	5	1
Indianapolis, Ind....	May 2.	129,346	23	..	..	..	..	..	..	1	..	1	..	....
Richmond, Va.......	May 4.	100,000	44	..	..	..	..	..	..	..	..	..	..	....
Toledo, Ohio........	May 2.	92,000	19	..	..	..	..	..	..	..	..	2	..	....
Fall River, Mass.....	May 3.	69,000	26	..	..	..	..	..	..	..	..	..	..	1
Nashville, Tenn.....	May 3.	68,531	34	..	..	..	..		..	1	..	..	..	....
Manchester, N. H....	May 3.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.........	May 3.	42,000	19	..	..	..	..	..	..	..	..	..	..	....
Council Bluffs, Iowa.	April 26.	40,000	3	..	..	..	..	..	..	..	..	2	..	....
Yonkers, N. Y.......	April 25.	31,000	13	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa..........	April 12.	34,397	3	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa..........	April 19.	34,397	5	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa..........	April 26.	34,397	5	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y........	May 3.	26,000	11	..	..	..	..	..	..	..	..	1	..	..
Newton, Mass.......	May 3.	22,011	6	..	..	..	..	..	..	..	..	1	..	....
Keokuk, Iowa.......	April 26.	16,000	3	..	..	..	..	..	..	..	..	..	..	...
Keokuk, Iowa.......	May 3.	16,000	3	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill......	April 26.	16,000	3	..	..	..	..	..	..	..	..	..	..	....
Rock Island. Ill......	May 4.	16,000	2	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	April 26.	15,000	4	..	..	..	..	..	..	..	..	..	..	....

Cure of Malignant Anthrax.—"The state of a patient in the later stages of malignant anthrax is desperate, and recovery very unusual. Dr. Lande describes, in the Mémoires de la société de médecine de Bordeaux, 1889, two cases where this condition was reached, yet the patients were saved by subcutaneous injections of carbolic acid. In the first case, that of a man, aged twenty-seven, the upper lip was the seat of anthrax; in the second, that of a woman, aged sixty-five, the anthrax developed on the interscapular region. Both subjects were very ill, low delirium and other unfavorable symptoms being present. The injections were generally made into the subcutaneous tissue of the peripheral inflamed zone of the anthrax. The strongest solution used when the symptoms were severe consisted of 15 grammes of neutral glycerin and an equal part of distilled water, in which 3 grammes of crystals of carbolic acid were dissolved. The injections were made at five points around the anthrax, and represented a total dose of 50 centigrammes of pure carbolic acid. This solution caused severe pain, but rapid improvement of the symptoms. This ten-per-cent. solution was stronger than any previously employed for the same purpose by Boeckel, Raimbert, and others. Nevertheless, it does not appear to cause sloughing of the tissues. A five-per-cent. solution is strong enough, in the opinion of Dr. Lande, except in very severe cases where the patient feels little pain. The injections must be repeated until the bad symptoms cease to recur, which may occur within forty-eight hours."—*British Medical Journal.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, MAY 24, 1890.

Original Communications.

CAN WE DIAGNOSTICATE HYPERÆMIA OR ANÆMIA OF THE BRAIN AND CORD?*

By LANDON CARTER GRAY, M. D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE NEW YORK POLYCLINIC.

HYPERÆMIA and anæmia of the brain and cord are terms that are very glibly used by the general practitioner to explain many symptoms whose pathology is obscure to him, although the use of the terms by the specialist has steadily decreased within the last ten or fifteen years. Can such hyperæmia or anæmia be diagnosticated? is a very important question that we may well ask ourselves in the interests of precise medicine. It will be instructive in this regard to review the opinions of recent writers of standing.

Gowers speaks with great skepticism of cerebral congestion, or the possibility of the recognition of this condition. The author only speaks of cerebral anæmia as recognizable when it is due to general anæmia, cardiac weakness, intracranial pressure, and obstruction of some cerebral artery. Of anæmia and hyperæmia of the spinal cord he says: "The occurrence of variations in the state of the vessels of the cord, and the effects that such variations may produce, are matters of inference from symptoms observed during life—symptoms that are in themselves open to various interpretations. Where the ground is barren of facts, theory is always luxuriant." Seeligmüller, in 1887, speaking of cerebral anæmia and hyperæmia, says: "The differential diagnosis between the two, remarkable as it may seem, is often accomplished with great difficulty, although it is of great importance in a therapeutic sense. A chlorotic girl may display the same ruddy cheeks, the same sensation of pulsation in the brain, the same vertigo, the same excitement as a person who is threatened with cerebral hæmorrhage. Even other diagnostic signs fail one, such as the amelioration of the anæmic headache by putting the head in a dependent position, or after a hearty meal. If one examines more precisely, however, in most cases of cerebral anæmia the pallor of the skin and the visible mucous membranes, the blowing murmur of the heart and the large vessels, the small pulse, etc., can readily be distinguished from the lively injection of the conjunctiva and other mucous membranes and the full and heaving pulse of cerebral hyperæmia. If, in addition, there should be found a hypertrophy of the left ventricle, the diagnosis would be so much safer. In general, we can state the signs of differential diagnosis to be as follows:

"Of cerebral hyperæmia: Insomnia, myosis, cephalalgia, extended headache and vertigo, better in standing; hyperæmia of the retinal vessels; pulse slow and full.

"Of cerebral anæmia: Drowsiness, mydriasis, headache restricted to a small space; headache and vertigo better in lying; anæmia of the retinal vessels; pulse small and rapid; heart and venous sounds."

In spinal hyperæmia he would have the symptoms to consist of certain dull pains and slight sensory derangements in the lower extremities, spontaneous muscular twitchings and tremor, and slight exaggeration of reflexes; and he quotes with approval Hammond's statement that vesical paresis and erections may occur frequently. The main differential diagnosis, in Seeligmüller's opinion, is from the pain of gall-stones. Spinal anæmia is not mentioned by this author. Liebermeister (1886), speaking of cerebral hyperæmia, says: "As symptoms, which perhaps are deducible with a certain probability from simple arterial hyperæmia, may be mentioned these: Cephalalgia of pressing or beating type, excitability and irritability, intellectual and bodily unrest and excitement, with impulse to activity, increased energy of the movements, greater vivacity of the association of ideas and thought, and insomnia. But we must freely admit of these symptoms that they are, to a certain extent, theoretically constructed, and that for the most of them the proof of their dependence upon simple hyperæmia without other disturbance has not been made." Of cerebral anæmia he speaks with more certainty, and the causes which he alleges are obstruction of cerebral arteries, great loss of blood, general anæmia, cardiac disease, and organic intracranial disease. Strümpell (1887), speaking of cerebral hyperæmia and anæmia, says: "In many cases in which pronounced cerebral symptoms point to an abnormal condition of the cerebrum, but where we can, nevertheless, for many reasons, exclude a gross anatomical lesion, we can assume the existence of circulatory disturbances in the brain without being able to adduce a direct reason. So we may attribute to cerebral circulatory disturbances certain cases of headache, pressure in the head, vertigo, general hyperæsthesia, and that Protean and yet well-characterized symptom-group which is known as cerebral neurasthenia. But how far cerebral circulatory disturbances here play a part, what their nature is, and whether purely functional disturbances of the brain may not arise entirely independent of them, has not yet been positively determined." Writing of the spinal circulatory disturbances, he says: "Our knowledge of the occurrence and the clinical significance of pure circulatory disturbance in the spinal cord is very scanty. All that is stated in this regard in the descriptions of spinal pathology largely corresponds more to theoretic assumptions than to real objective facts." Ross (1882) admits that "the symptoms of cerebral anæmia are not unlike those of hyperæmia of the brain, and the delirium from anæmia which arises in the course of acute disease may very readily be mistaken for the delirium of active congestion. Anæmia and hyperæmia of the brain can indeed only be distinguished from one another by careful attention to the concomitant symptoms. The symptoms themselves are not to be relied upon, as the delirium in anæmia may be as violent as in congestion, and the color of the face is not always a faithful index of the condition of the cerebral circulation. The diagnosis must be founded upon the general history of the case, the nature of the concomitant symptoms, and the treatment which has been adopted prior to the onset of the delirium. As further aids to the diagnosis, it may be tried whether the erect or horizontal posture has any influence in aggravating or diminishing the symptoms, and whether they are increased or relieved by alcoholic stimulants. The state of the general circulation must also be carefully examined." All that he says in regard to the diagnosis of spinal anæmia is this: "The diagnosis must rest mainly on the concomitant symptoms, the symptoms of the acute ischæmic form resembling those due to spinal hæmorrhage, and anæmia can only be inferred to be the cause when the aorta is known to be obstructed or a great loss of blood has recently occurred. The chronic forms of spinal anæmia resemble chronic myelitis or chronic meningitis, but when severe general anæmia exists it may be inferred that the disease is caused by it. The fact that the horizontal position relieves the symptoms may afford valuable aid in forming the diagnosis," which latter point he borrows from Dr. Hammond. Of hyperæmia of the cord he says: "The diagnosis of hyperæmia of the structures within the spinal canal is based on the slight and transitory nature of the sensory and motor symptoms, the absence of increase of temperature, the short and favorable course of the symptoms, and the success of treatment calculated to relieve congestion." Of all contemporary authors, however, Dr. William A. Hammond is the most precise, enthusiastic, and comprehensive in his account of the symptoms of cerebral anæmia and hyperæmia. Writing (1886) of cerebral congestion, he treats of the active and the passive forms separately. Of the first he recognizes six varieties, which are designated by the chief feature characterizing the attack—namely, the apoplectic, the paralytic, the convulsive, the soporific, the maniacal, and the aphasic; "the latter," he says, "being a sixth form which is now for the first time systematically arranged in the present category." He goes on to say: "It will doubtless be the case that, as our knowledge of the functions of the brain becomes greater, other forms of cerebral congestion, especially those of a partial character, like the aphasic, for instance, will be recognized." In cerebral anæmia the symptoms given by Dr. Hammond are syncope; headache limited to a small spot or consisting of a sense of constriction; tinnitus aurium; dilated and sluggish pupils; small retinal vessels; pale chorioid; paresis of ocular muscles; great facial pallor; nausea and vomiting in extreme cases; epileptiform convulsions occasionally, and always when there has been great loss of blood; general muscular weakness or general or partial paralysis; anæsthesia; mental disturbances, varying from complete coma through the gradations from low delirium to great mental irritability or intellectual lassitude; hallucinations and illusions; drowsiness; rapid death; a melancholic tendency, or even positive insanity. The symptoms of spinal congestion, according to Dr. Hammond, are: a dull, aching pain, increased by the recumbent posture and by standing, if the lower cord is affected, but not augmented by pressure; an occasional sensation of heat in the cord; disturbances of sensibility and motility, such as hyperæsthesia, shooting pains, girdle sensation, formication, etc.; erections, vesical and rectal paralysis, diminution of electro-muscular reaction, and bedsores. Of spinal anæmia Dr. Hammond writes: "A deficient quantity of blood in the spinal cord, or a depreciation of the quality of the blood circulating through its tissue, give rise to cognate but, so far as their phenomena go, different affections. In one of these, which has heretofore been known as spinal irritation, the morbid action is in a great measure confined to the posterior columns of the cord; in the other, which embraces several differently named disorders, characterized by paralysis—such as reflex paralysis, inhibitory paralysis, spinal paresis, paralysis from peripheral irritation, etc.—the antero-lateral columns are mainly affected. In thus specifically locating the lesions in these affections, I am aware of the fact that post-mortem examinations are wanting to support them. Nevertheless, the symptoms characteristic of each are so distinctly marked, and are in such intimate physiological relation with the regions of the cord specified, that I do not think I am at all exceeding the limits of probability."

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* The presidential inaugural address read before the New York Neurological Society, Tuesday, May 6, 1890.

All the authors quoted are writers of the last decade, and their views are fairly representative of the views held by neurologists in general, except that those of Dr. Hammond would, I think, be regarded as extreme. Among the older writers the expressions in favor of hyperæmia and anæmia of the brain and cord are much more marked, but it would profit us little to spend any time in learning what their opinions were, because they classed under these general names so many diseases that have since been differentiated.

It may be said, then, that the symptoms alleged to be those of cerebral hyperæmia or anæmia are headache, flushing or pallor of the face, delirium, vertigo, motor or sensory paralysis, retinal changes, slight aural changes, insomnia, myosis. If these symptoms are examined one by one, the significance of each one will become decidedly problematical to any one who has had much acquaintance with the clinical aspects of cerebral disease. Headache, for example, is a very general symptom, indicating too many disorders to be of any service except in conjunction with other signs, and the statement that it is apt to be localized and widespread in cerebral hyperæmia is a pure assumption, of which no proof has ever been adduced. The condition of the capillary circulation of the face is by no means a reliable guide to the condition of the cerebral capillary circulation. Any hospital surgeon knows that marked meningeal hyperæmia is often associated with great facial pallor in fractures of the skull and the attendant cerebral hyperæmia, just as great pallor may exist with many hyperæmic intracranial conditions, at the same time that precisely the same pathological states may cause vascular flushing in other individuals. Delirium, like headache, is a general symptom indicative of too many conditions to be of any value by itself. The same remark is true of vertigo. Of motor and sensory paralysis as symptoms of cerebral hyperæmia and anæmia it may simply be said that there is not an authentic case on record in which a simple anæmia or hyperæmia has caused a motor or sensory paralysis. It is almost, if not absolutely, impossible to distinguish retinal changes consisting only of slight differences in vascularity from the normal, as every ophthalmologist knows, while the more marked changes of neuro-retinitis have never yet been shown to have been produced by cerebral anæmia or hyperæmia. Tinnitus aurium and insomnia, like headache, delirium, and vertigo, are symptoms that are absolutely worthless by themselves. Myosis is said to be a symptom of cerebral hyperæmia. It may be, but nobody has yet made public the proof. It will thus be seen that, of all these symptoms, headache, delirium, vertigo, tinnitus aurium, and insomnia are general symptoms which only derive a diagnostic value from their associates, while flushing or pallor of the face are extremely doubtful indications of the intracranial circulation; motor and sensory paralysis and retinal changes are absolutely worthless as signs, and the diagnostic value of myosis is a pure assumption. Anæmia and hyperæmia of the cord have, as we have seen, very lack-luster defenders among the modern writers, with the exception of Dr. Hammond. The former ascribe to them certain vague pains, which might be due to so many varying general, muscular, and neuralgic conditions that the differential diagnosis would be practically impossible, even if it were of any practical use. But when we come to consider the symptoms which Dr. Hammond alleges to be those of cerebral hyperæmia, we are confronted by the picture of an organic cerebral disease. If cerebral hyperæmia can produce the symptoms of apoplexy, paralysis, convulsions, a soporific condition, mania, and aphasia, it certainly is capable of producing serious organic symptoms, and we should naturally expect to have the proof. When we turn to Dr. Hammond's chapter on the pathology of this particular form of cerebral disease we find the statement that the capillaries and large blood-vessels of the brain and pia mater will be found to be increased in size, that the white matter of the brain is increased in consistence and density, the gray matter is red or even violet in hue, there is a large amount of subarachnoid effusion or even an effusion into the ventricles, and the chorioid plexuses are often enlarged. If there have been repeated attacks of cerebral congestion, granules of hæmatin will be found in contact with the blood-vessels, or the latter may be found to be unusually tortuous and to have minute aneurysms. Now, I submit that this description is not that of a mere hyperæmia, but is a condition of actual structural disease of the cerebral tissue quite as pronounced as can be found in many cases of general paresis of the insane, or in the severer cases of chorea, or in certain cases of intracranial syphilis; indeed, it would seem that a part of this description—that relating to the hæmatin and the tortuosity and aneurysmal swellings of the arterioles—is acknowledged to be from the work of Laborde upon Softening and Congestion of the Brain of the Aged, and written in 1866. In addition to this description, Dr. Hammond also says that we will find that state of the brain described by Calmeil in 1826, and subsequently given the name of *l'état criblé* by Durand-Fardel in 1854, and described respectively in treatises upon the insane and the aged. Dr. Hammond's symptoms of spinal congestion are those of myelitis, and there is no means of making the differential diagnosis, while that spinal anæmia may be confined to the posterior columns of the cord, giving rise to the symptoms of spinal irritation, or confined to the anterolateral columns of the cord, giving rise to paralytic symptoms, is a theory which he himself acknowledges to be wanting in the support of autopsies.

The truth of the matter is that our knowledge of nervous diseases has increased so rapidly within the last quarter of a century as to make it a matter of little surprise that the older authors should have attempted to satisfy their ignorant consciences by dubbing as congestion or hyperæmia the many puzzling symptoms which time has resolved into distinct symptom groups. The most difficult of all phrases for the average scientist is, "I do not know." A disease must be labeled at any cost, and, once labeled, it takes many years to rub out the brand. Meningitis, general paresis, porencephalitis, cerebral and spinal syphilis, disseminated sclerosis, bulbar lesions, poliomyelitis anterior, central or transverse myelitis, syringomyelitis, progressive muscular atrophy, acute ascending or Landry's paralysis, locomotor ataxia, especially in its early stages, many forms of neuritis, focal diseases of the brain in the light of our modern knowledge of localization, lateral sclerosis, many forms of lithæmia and neurasthenia—these are many diseases of which we now possess a knowledge at which the practitioner of twenty-five years ago might well stand appalled, and which he may well be pardoned for supposing to be due to some vague form of anæmia or hyperæmia. Indeed, Leyden, writing in 1875 of essential infantile paralysis, thought it to be due to a peculiar congestion of the cord, while Cornil and Lépine had demonstrated some two years before that the pathological condition was a disappearance of the great ganglion cells in the anterior horns of the spinal cord, the autopsy in their case being followed by another one to the same effect by Gombault in the same year as Leyden's article.

After this necessarily cursory review we may ask ourselves again, Can hyperæmia or anæmia of the brain and cord be diagnosticated? I, for my part, would answer very positively that the diagnosis is not possible by means of the nervous symptoms alone; in other words, the symptoms as I have narrated them above are not sufficient by themselves to warrant a diagnosis of anæmia or hyperæmia of the brain or cord. It must be remembered that the brain is an exquisitely and almost inconceivably complex organ, pulsating and vibrating with the most explosively nitrogenized molecular life, and reacting to a myriad reflex influences in the kaleidoscopic way that constitutes the never-tiring charms of character, poetry, music, and the varied forms of mental activity. To put our finger on a few slight changes of temporary nature that occur in an organ like this, say that they are really due to hyperæmia or anæmia, and exclude all the cellular play, all the reflex influences from the other viscera of the body, all the morbific elements that may be circulating in the blood, all the factors of temporary discomfort that are to be found in the atmosphere, in the food and clothing, and in the circumstances of a human being's environment—even if this is not impossible, it has certainly not been done. If we have evidences of some intracranial disturbance, such as those we have already detailed—headache, delirium, vertigo, tinnitus aurium, insomnia, flushing or pallor of the face—and with these we have some concomitant conditions that would make it reasonable to suppose that there might exist a congestion or anæmia of the brain or cord, then we should be warranted in regarding such a diagnosis as probable. Thus certain cardiac conditions, lesions of the great vessels of the chest, abdomen, and thorax, certain forms of hepatic disease, tumors making pressure upon these great vessels, a general anæmia, leucocythæmia, intense mental exertion, or exposure to great heat—these conditions, when associated with the above-described general symptoms, would make it probable that the general symptoms were due to hyperæmia or anæmia, as the case might be; but even then there might not be certainty. I can not conceive, however, how we are to make the diagnosis of spinal anæmia or hyperæmia, for I know of no pathological observations that would warrant on the one hand the diagnosis by means of the vague pains that are described by some authors, or, on the other hand, by means of the symptoms of full-fledged myelitis which are described by Dr. Hammond.

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A CASE OF RECURRENT APPENDICITIS;

REMOVAL OF THE APPENDIX IN THE PERIOD OF QUIESCENCE.*

By F. W. MURRAY, M. D.,
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The patient was a man, twenty-one years of age, by trade a cigarmaker, and whose life and habits were regular. Beyond occasional slight attacks of indigestion his previous history presents nothing worthy of comment. On the morning of October 18, 1888, he was attacked with colicky pains in the abdomen accompanied with vomiting. Thinking it was an ordinary attack of indigestion, he resorted to household remedies and obtained temporary relief. The vomiting soon ceased, but the pain returned with such intensity that the patient went to bed. When seen by his physician a few hours later he was more comfortable but still complained of abdominal pain. It was paroxysmal, not localized, but shifting about over the abdomen. There was a little general abdominal tenderness, some tympanites, abdominal walls fairly tense. Pressure over the right iliac fossa produced some pain, but not enough to call particular attention to this region. Tongue coated, bowels constipated, pulse 96, temperature 100° F. On questioning the patient, indiscretion in diet was denied and only a history of slight malaise for the past two weeks was obtained. The case was diagnosticated as typhoid fever, as the disease was quite prevalent at the time in that neighborhood. After two weeks of severe illness improvement set in, and at the end of the fourth week the patient was out of bed. During this period abdominal pain was the principal symptom, and was very severe at times. Fever was present, reaching 103° at one time. In December, just about one month from the last illness, he was again attacked with colicky and steady pains, starting in the left iliac region and shooting across to the right side. The attack lasted eight or ten days, the abdomen was swollen and tender, and he was compelled to lie with his knees drawn up. From this time until May, 1889, there were similar attacks, lasting a few days and occurring about every three or four weeks. The pain was severe, and most marked in the left hypochondriac region at one time, and again in the right iliac fossa. Between the attacks the patient was fairly well and complained only of want of strength. There was entire freedom from May until September, when another attack occurred lasting a few days and quite severe. The next attack came at the end of November and was the severest one of all, it being almost Christmas before the patient was out of bed. The pain was intense and localized in the right iliac fossa, at times radiating to the median line. Rigidity of the abdominal wall was well marked in this region, and pressure caused great suffering. A point of exquisite tenderness was found over the region of the appendix. No induration or tumor could be felt. The main feature of this attack was the severity of the pain, and large amounts of morphine were required to keep the patient comfortable. Another interesting point is that during this attack the real nature of the trouble was discovered.

On January 7, 1890, the patient was referred to my care at St. Luke's Hospital. He was a man of medium height, of slight build, and very anæmic. He complained of weakness, and said he was not recovering as quickly from the last attack as from the former ones. He was nervous and very apprehensive as to the occurrence of future attacks. He had a fair appetite, coated tongue, pulse and temperature normal. No evidences of pulmonary or cardiac trouble; urine normal. Abdominal walls fairly tense. No general tenderness. At a point about two inches from the right anterior superior iliac spine and a little below a line drawn from the iliac spine to the umbilicus was a spot where firm pressure caused considerable pain. On deep pressure it was thought a small mass running downward and inward could be felt, but it was uncertain. Slight dullness in the upper and outer portion of the iliac fossa. On January 15th, under ether, an incision four inches long and with its center opposite the superior iliac spine was made on the outer side of the right rectus muscle. Tissues divided down to peritonæum, which was carefully opened and incised the whole length of the wound. The omentum presented and was slightly adherent to the cæcum. After gently breaking down the adhesions and pushing the omentum upward out of the way the cæcum came into view. It was normal in appearance, slightly distended with gas, and bound down at its lower edge by a few adhesions, which were easily separated. The cæcum was lifted into the wound, and on elevating its lower edge the appendix was easily exposed. It ran upward and inward behind the cæcum, was enlarged, thickened, and doubled on itself. Adhesions of recent origin bound it down to the cæcum and adjacent mesentery and were easily separated. The mesentery was tied in sections with catgut, the appendix ligated with strong catgut at its base, and then cut off. The cavity of the stump was thoroughly scraped with a Volkmann's spoon, touched lightly with the cautery, and sprinkled with iodoform. A slight hæmorrhage from the mesentery took place from the slipping of a ligature, but was soon controlled. The cæcum was replaced, a rubber drainage-tube was inserted down to the stump, and a few strips of iodoform gauze were packed lightly about it. Upper two thirds of the wound was sutured—continuous catgut for the peritonæum, interrupted catgut for the muscular layers, and silk for the skin. Compress of iodoform gauze next to the wound covered by larger ones of bichloride, thick layer of absorbent cotton, and abdomen firmly bandaged. For twenty-four hours after operation there was nausea and vomiting due to the ether. Drainage-tube removed on second day, bowels were moved on the third, and patient very comfortable. On the eighth day pain in wound and slight rise in temperature, due to a small focus of suppuration in the line of suture. It was evacuated, drained, and in a few days was rapidly granulating. The patient's progress toward recovery was steady, and at the end of the third week he was out of bed. It was four weeks before I allowed him to move about, and he soon afterward returned home. A note from his physician was received yesterday, and he states that the patient is back at his work and perfectly well. The specimen removed was a good example of chronic catarrhal appendicitis, and presents some points of interest. It was two inches long, uniformly enlarged and thickened, excepting at its center, where it was deeply constricted and doubled on itself. On section, the canal was obliterated at the point of constriction, thus shutting off its distal portion from communication with the cæcum. The distal end formed a cavity about an inch long and half an inch wide, distended with brown mucus having a disagreeable odor. At a point just adjoining the constriction the wall of the cavity was very thin and presented a marked contrast to the thickness existing elsewhere. In deciding to operate I was guided principally by the clinical history, and, in a measure, by his general condition and surroundings. The attacks were frequent and increasing in severity; the patient was losing strength steadily, and was prevented from following his vocation; finally, he lived in a place where requisite surgical aid was not to be had. These were, in my opinion, sufficient reasons, and the condition of the appendix shows that we anticipated a probable perforation in the near future. If these reasons and the conditions of the appendix are not convincing, then the result speaks for itself. To bring before this society the history of a solitary case of appendicitis may seem unnecessary, especially when one considers how many times the disease has been discussed here before. Your attention, however, has been directed almost entirely to the acute stage of the disease, and the discussions have been limited to the question of operation at this stage.

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* Read before the New York Surgical Society, March 26, 1890.

The case the history of which I have narrated is an example of the recurrent variety, and its main point of interest is the fact that the appendix was removed during the period of quiescence. I report the case with the hope of obtaining your opinion as to the treatment of this variety of appendicitis, and particularly the cases which are seen by the surgeon during the interval between attacks. The question to decide is whether it is wiser to remove the appendix in the interval or to wait until an attack occurs. Our present knowledge and experience are not sufficient to allow us to advocate operation in all cases, and we have to be guided by the history of the individual case. Recurrent appendicitis presents itself, from a clinical standpoint, in various grades of severity, and, for the sake of convenience, we may speak of a severe, a moderately severe, and a mild variety. The first two are the ones usually seen by the surgeon, and we will confine our attention to them. All surgeons will agree that operation is indicated in the cases where the patient, as a result of the frequency and severity of the attacks, is an invalid or his future usefulness is threatened.

Again, a history of severe attacks, occurring frequently and increasing in severity, with fair health in the intervals, should incline us to operate rather than delay. The objection might be raised that the patient may never have another attack, and, even if he had, that did not prevent recovery, as many such cases are recorded. This may all be true, but it may be said in return that medical treatment has not prevented further relapses, and that the attacks are increasing in severity. Many patients have passed safely through a number of attacks only to succumb in some later one. Again, from the opinion now held as to early operative interference in the acute stage, a case presenting such a history and first seen at the time of attack would be one for operation. Such being the fact, the advantage of removing the appendix in the interval is obvious. When we come to consider the moderately severe cases, where the attacks are of considerable severity as regards pain and where the intervals are fairly long, the majority of surgeons advocate delay. One should not say that they are wrong in taking such a view, and the future, I think, will show that the disease is more dangerous than the operation. When early laparotomy was proposed as the treatment in the acute stage of appendicitis many objections were raised, and among them the fact that in only a comparatively small percentage was recurrence to be expected. It was urged that it was more prudent to delay and await a future attack before resorting to operation.

Fitz states that eleven per cent. of the cases relapse, while Krafft reports 106 cases, with relapses in 24 of them. It is not my intention to juggle with figures, but merely to suggest that perhaps recurrence is more frequent than we suppose. If the fact of recurrence justifies operation in the acute stage it is all the more reason why we should adopt a similar course of action in those cases where recurrence is the chief characteristic. The time, however, should be selected when the patient runs the least risk, and that is during the period of quiescence. Laparotomy is always attended with risks, and it is far from any desire on my part to underestimate its dangers.

It is only by a study of the cases in which laparotomy has been performed that we can form a correct opinion as to the danger of the operation. Counting my own case, I have been able to collect the records of eleven cases of recurrent appendicitis where operation has been performed during the period of quiescence. Dr. McBurney tells me that he has had six cases of similar character and operated on at the same period. These cases have not been published. Thus we have seventeen cases in all and with only one death—a mortality of a little over five per cent. In three of these cases the appendix was found diseased and excised during laparotomy for the removal of the uterine appendages, and I have included them, as they are examples of greater risk than the cases where the appendix alone was removed. I can not positively say that five per cent. represents the actual mortality, but in quite an extended search I have not been able to find the records of additional cases.

It would be premature from such a limited number of cases to lay it down as a general rule that all cases of the recurrent variety should be operated on in the interval. The small percentage of mortality presented by these cases compares more than favorably with the mortality in the cases treated during the acute stage. It is fair to conclude, however, that we are justified in more frequently advocating operation in the cases of moderate severity. The diagnosis is, as a rule, made early, but we are as yet unable to determine accurately from the study of symptoms the extent and severity of the disease. This fact, however, should not lead us to abandon the clinical history in deciding on the advisability of operation. Although the condition of the appendix is always an uncertainty, we have yet to hear of a case in which operation was advocated from the history of symptoms where the appendix was found in a condition not justifying its removal. One can not accurately estimate the severity of the disease from simple inspection of the organ, as on opening what appears to be an inoffensive appendix its interior is often found extensively diseased and presenting conditions favorable for perforation.

A few days since I was called to see a gentleman suffering from colicky pains in the abdomen, vomiting, and diarrhœa. He had taken a late supper the night before and went to bed perfectly well, only to be awakened at four in the morning by the intense pain. I saw him a few hours afterward, and found him more comfortable but suffering from pain in the epigastric region. He considered it an attack of indigestion, and wanted something to "clean him out." Pressure over the epigastrium was not painful, but over the region of the appendix a spot of exquisite tenderness was found—so tender as to almost double him up on firm pressure with one finger. It was a plain case of appendicitis, and careful questioning resulted in obtaining a history of three similar attacks during the past three years.

This case is mentioned to strengthen the suspicion that many so-called attacks of indigestion are in reality cases of appendicitis. A careful examination of the right iliac fossa in such cases should always be made, and no doubt my suspicion will be proved correct and we will find that recurrent appendicitis is more frequent than we suppose. Cases are recorded where the intervals between attacks varied from three to twenty years. In view of this fact, how and when are we to be certain that permanent resolution has taken place? We need more reliable information before we can accept unreservedly the statement that a favorable termination is by far the most frequent course of the disease.

Last January I performed exploratory laparotomy in a case of supposed abscess of the liver, situated in the right lobe. On exposing the organ, it was found to be a case of metastatic abscesses of the liver, and the operation ceased. The patient, none the worse for the exploration, lived three days and died of exhaustion. Autopsy revealed suppurative pyelophlebitis and metastatic abscesses of the liver. The superior mesenteric vein and its branches from the cæcum were suppurating. The vermiform appendix was free and appeared normal. A perforating ulcer near its base opened into the connective tissue back of the cæcum, where an irregular suppurating channel ran upward for a few inches close to the cæcum. This channel perforated the mucous membrane of the cæcum at one place, leaving it thin in others. His history previous to admission gave no suspicion of the trouble. On questioning his widow, I found that at various times during the last fourteen months he had complained of slight pain in the right iliac fossa, accompanied by tingling in the right thigh. Six weeks previous to admission to hospital there was a sharp attack of epigastric pain of a colicky nature and accompanied by vomiting; the attack lasted about a day. For four weeks afterward he had daily chills followed by fever and sweating, which were supposed to be malaria. His history suggests recurrent appendicitis, and if an autopsy had not been obtained his death would have been put down to pylephlebitis of unknown origin.

Strümpell considers perforating appendicitis the most frequent source of suppurative pylephlebitis, and adds that the disease is invariably fatal—at least no recoveries are known. In forming a correct estimation of the nature of appendicitis we must take into consideration not only the probable, but the possible dangers. On this account I have referred to this case. I shall not attempt to draw any conclusions, but simply state that, in my opinion, future experience will demonstrate that recurrent appendicitis is of more frequent occurrence than we now suppose, and that in the so-called moderately severe cases it will be wiser to remove the appendix during the period of quiescence than to wait for an attack.

OPERATIVE TREATMENT OF FLAT-FOOT BY SUPRAMALLEOLAR OSTEOTOMY.*

By WILLY MEYER, M. D.

The great progress of orthopædic surgery in regard to the treatment of the static deformities of the lower extremities dates from the time that bloody operations, rendered safe by antisepsis, have been added to our orthopædic resources. For each of the well-known deformities—such as genu valgum and varum, talipes varo-equinus and talipes plano-valgus—a great number of operations have been proposed and are still performed. Especially for the cure of the two last-mentioned troubles a great variety of operations exist. This proves that no operation has as yet been found which can be safely relied upon in its ultimate results.

There are even authorities who reject all operative interference in these deformities of the foot, and profess to be able to cure even severe cases of this class by repeated forcible reposition under narcosis and retention in a portative plaster-of-Paris or silicate-of-potassium splint.

Still others object even to this treatment, as far as the flat-foot is concerned, on the ground "that such retention would interfere with the movements of the foot and prevent the exercises for strengthening the muscles, on which we must place our main reliance." † They hope to cure flat-foot by means of shoes, braces, gymnastic exercises of great variety, massage, etc. Old cases, with permanent changes in the bones, can only be improved in this way.

Of course no objection could be made to these non-operative methods if it were true that a real cure could often be effected by them and without recurrence of the deformity after cessation of the treatment. Such methods should indeed be first tried in all cases of flat-foot where the deformity is still easily reducible by manipulations. But in more advanced cases, where the deformity has become rigid, where the astragalus has slipped forward, downward, and inward from the os calcis and the scaphoid also has been displaced downward, where the shape of the bones has been permanently changed, this treatment will take a long time before a cure is effected. And even then the ultimate result will be doubtful.

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* Read before the New York Surgical Society, March 12, 1890.

† Royal Whitman, Observations on Seventy-five Cases of Flat-foot. Transactions of the American Orthopædic Association, vol. i, p. 129, 1889.

Now, there are not in many cities hospitals and dispensaries where orthopædic machines and braces are accurately constructed on scientific principles and supplied for a moderate price. A good, reliable shoe-maker is not so easily found. Not every patient is willing to undergo a long-continued treatment or is able to pay for it, though the charges may be trifling. Why, may be asked, has osteotomy been almost everywhere adopted in the treatment of genu valgum and genu varum, which deformities can, to a great extent at least, also be cured by orthopædic apparatus in the course of months? Why, then, should flat-foot alone be excluded from the benefits of operative treatment? If there is a safe operation —and all these operations *are* safe under careful antiseptic precautions—which promises to accomplish a cure in weeks what others can only do in months, it should be sufficiently tried. And if its results are found by many to be good and permanent, it should be added to the multiple means which are now at the disposal of orthopædic surgery. Of course, no surgeon would think of operating on the flat-foot of a pregnant woman or on that of a fat man, because in the one case the confinement, in the other the reduction of weight, would remove the complaint without need of treatment; none would ever, at least not at present, attack the pes valgus of a rickety child. But in the treatment of the poor working class, where, in bakers' boys, grocers' boys, and butchers' boys, in messengers and waiters, flat-foot is such a very common disease and in so many instances help is applied for only when the deformity offers firm resistance to its reduction, a shorter treatment ought to be welcome.

Before describing the operation mentioned in the title, a short review of the various operative procedures which until date have been devised and tried in the treatment of flat-foot, and the results achieved with them, may be of some interest.

1. So far as a careful perusal of the literature shows, C. H. Golding-Bird, of London, was the first to operate for flat-foot, in 1878.* He operated on four patients—on three in 1878 and on one in 1879—between twelve and seventeen years of age. In two cases the scaphoid bone alone was removed, and in two that bone together with the head of the astragalus. In one of these Golding-Bird sawed subcutaneously across the whole tarsus, besides removing the scaphoid. The results were uniformly good; all the patients were cured of pain, but in only one case was the arch really restored. Richard Davy, of London, performed the same operation on two patients, fourteen and seventeen years old respectively, in 1887 and 1888.† The result was satisfactory in each case, so far as walking power was concerned. "The patients, having been prevented from gaining their living, could again pursue their duties as milkman and newsboy."

2. In 1884 A. Ogston, of Aberdeen, published his operation for the cure of flat-foot.* He believes that the deformity is caused by relaxation of all the articulations of the foot, especially that between the scaphoid and the head of the astragalus, and subsequent alteration of shape in the bones of Chopart's joints. He considers these two points as being "the key to the disease and its successful operative treatment." He therefore attacks Chopart's joint with the intention of restoring it in its normal position and thereby rectifying the faulty position of the foot. The usual careful preparations having been carried out, he cut down on the astragalo-scaphoid articulation, chiseled off the cartilaginous surfaces, and, after restoring the two bones to position, fixed them together with fine ivory pegs, which were left in the wound. Careful catgut suture, antiseptic dressing, and a few turns of plaster-of-Paris bandage outside the latter, finished the operation. This operation was performed seventeen times in ten patients (until January 14, 1884), usually on both feet in one sitting. In one case Chopart's joint was pegged as well as that between the scaphoid and internal cuneiform, because its movement seemed unusually free. The wounds healed by primary union. The patients were permitted to walk a little at the end of two months, but, as a rule, they should not do so until three months have elapsed. All patients were benefited by the operation and satisfied with the result, even at considerable periods after the operation. They resumed their former occupation. Objective examination proved the plantar arch to be restored to perfection in a number of cases; in the others it always was much improved.

At the meeting of the British Medical Association, 1888, Ogston presented a roll of forty-seven cases, similarly operated, with the same encouraging results.

3. W. Stokes,† of Dublin, removed a wedge-shaped piece of bone from the enlarged head and neck of the astragalus in a boy fourteen years old. He called his operation astragaloid osteotomy. By adducting and supinating the foot, the restoration of the arch was perfect; six months later the author learned by report that the boy "was able to walk, run, and play about as well as any other healthy boy of his age."

4. Two years ago Weinlechner,‡ of Vienna, excised the astragalus in one side for the radical cure of flat-foot. At first the leg was shortened for half an inch; this was outgrown later. After some time the tibio-tarsal articulation was rather stiff; mobility in Chopart's joint more satisfactory. The patient could more easily walk and stand on the foot operated upon than on the other.

A great variety of operations has been published last year.

5. A. W. Hare # modified Ogston's operation and tried it in one case. To avoid the introduction of an ivory support

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* Guy's Hosp. Rep., 1882, p. 457; Lancet, 1889, i, p. 677.

† On Excision of the Scaphoid Bone for the Relief of Confirmed Flat-foot. Lancet, 1889, i, p. 675.

* Alexander Ogston, On Flat-foot and its Cure by Operation. The Lancet, January 26, 1884.

† Annals of Surgery, October, 1885.

‡ Wien. med. Blätter, 1888, x.

Lancet, Nov. 9, 1889, p. 953.

he cut the bony surfaces of the astragalo-scaphoid joint in a zigzag line, and then replaced the two bones, allowing the projecting upper two thirds of the head of the astragalus to rest upon a horizontal artificial plane of the scaphoid. "The bones were held firmly in their new relationship to one another, and it was at once seen that the arch of the foot was restored." Seven weeks after the operation "the patient could walk easily and without pain; he was able to return to his usual employment, and has continued to improve since."

6. A. M. Phelps,* of New York, recently performed an operation for flat-foot "which consisted in making an incision across the sole of the foot, and through this incision the muscles and fascia were hooked up, cut apart, shortened, and again stitched together. The skin was also shortened. The object of the operation was to shorten the girders which held up the arch." A preliminary treatment of about two to three weeks is necessary in order to mobilize the displaced rigid arch.

7. At the last meeting of the German Surgical Society at Berlin, April, 1889, F. Trendelenburg, of Bonn,† communicated his experience with supramalleolar osteotomy in the radical treatment of flat-foot. Having seen good results with this operation in correcting traumatic talipes valgus, a position which was the result of a neglected and unreduced Pott's fracture, it occurred to him to try the same method for the idiopathic flat-foot. His calculation was this: The cause of the great functional disorder and the excruciating pain in traumatic flat-foot is the displacement of the line of gravity by the alteration of the longitudinal axis of the leg. The latter does not cross the sole of the foot in its median line, as is the case in the normal foot, but in a point nearer to its inner border, and thus the weight of the body is also brought to bear inside of its normal position. On account of the eversion of the foot in some cases the line of gravity meets the inner border of the sole itself; sometimes, if the deviation is very marked, not even this, but a point of the ground entirely outside of and inwardly from the sole. This condition may be best studied in examining such an extremity from its posterior side. The foot being in this abnormal position, the tarsal ligaments will be stretched with each step; the foot becomes everted (talipes valgus). Walking and standing tend to increase the deformity, and consequently the patient's troubles.

In the idiopathic flat-foot the condition is very similar. The most striking symptom is, of course, the flattened arch. But in all advanced cases, where the deformity is irreducible and the foot in the everted or valgus position, the changed relation between axis of leg and plantar arch is the same as in a case of badly treated Pott's fracture. The axis nearly passes the internal border of the sole, the internal malleolus is markedly prominent, the external nearly invisible.

Now, if in traumatic flat-foot tibia and fibula are cut across with the chisel right above the malleoli, the deformity can easily be corrected and the foot so placed "as to transmit the weight of the body," if the patient walks again, "through the tarsus in an oblique direction—that is, through the cuboid instead of the scaphoid bone." This is, as Phelps stated (*loc. cit.*), the object of treatment of flat-foot.

With the experience of this operation it was, of course, very tempting for Trendelenburg to try supramalleolar osteotomy also for the radical cure of idiopathic flat-foot. He performed the operation seven times in five patients between sixteen and forty years of age (until April, 1889), and was astonished to see the remarkable success in all of them. The arch was restored and the displacement of leg and foot at once removed; the difficulty and pain in walking and standing had fully or nearly disappeared. A sixteen-year-old boy who had been successfully operated upon on both sides in one sitting four months previous was presented to the society.

At the same meeting Eugen Hahn * stated that he had adopted a very similar plan of operation for flat-foot independently of Trendelenburg. He performed osteotomy on the tibia only, and also deems it important to cut the bone right above the malleolus. But, to avoid opening of the tibio-tarsal joint, he incises the skin a little farther above than Trendelenburg. He had operated five times on three patients (up to April, 1889). One of the patients was cured, the second improved. In the third the operation rather aggravated the trouble. But this case was complicated, as the scaphoid bone formed a very marked prominence; the inner border of the foot was convex, the outer concave (pes reflexus). Hahn proposes to add Ogston's operation to osteotomy and reduction in such extreme cases.

The way I came to try supramalleolar osteotomy for flat-foot is somewhat similar to that of Trendelenburg, although the idea did not originate with me.

In April and May, 1889, two patients came under my care at the German Hospital who had been treated for Pott's fracture somewhere else. In both a very marked valgus position of the foot resulted, which entirely disabled the men. I performed supramalleolar osteotomy of tibia and fibula and succeeded in easily reducing the foot. The result in both cases was perfect. One of the patients, a young man twenty years of age, was presented to this society some fourteen weeks ago (he is also here tonight). Position and use of the foot are fully restored. The man can walk many miles a day without the slightest discomfort. (Patient presented at the meeting.) I have been unsuccessful in finding the second patient. But I have learned that he resumed his former occupation—peddling; certainly sufficient proof for the good and permanent result of the operation performed on him.

After the experience of these two traumatic cases, I read in the report of the last Surgical Congress Trendelenburg's proposition to adopt supramalleolar osteotomy for the radical cure of flat-foot. This struck me as an eminently clever suggestion—so much the more as the success achieved with this method by Trendelenburg, even in far-advanced cases and older patients,[*] is rather remarkable.

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* Transactions of the American Orthopædic Association, vol. i, 1889, p. 137.

† Archiv f. klin. Chirurgie, Bd. xxxix, 4. Heft, p. 751.

* Ctrlbl. f. Chir., 1889, Beilage, p. 108, and Verhandlungen d. deutsch. Gesellsch. f. Chir., Berlin, 1889, p. 81.

In estimating the value of the operation it is interesting to notice that it removes the cause of the flat-foot according to either of the two main theories which have been given for its ætiology. The one, advanced in an excellent paper by Royal Whitman,[†] read before the last meeting of the American Orthopædic Association, and in a similar manner by A. Lorenz,[‡] a few years ago, claims that in the normal foot the weight of the body falls upon the os calcis at a point internal to its base, and thus tends to roll it over toward the inside, presenting an inclined plane for the support of the leg. In consequence of this displacement the astragalus has a tendency to slip downward and inward on the articular facets of the os calcis. According to Lorenz, this only occurs under increased weight. Normal muscles and ligaments prevent any excessive displacement, and after each step restore the bones to their previous position; the displacement is only temporary. But if the strength of the supporting muscles is overtaxed, they get tired (Henke). Then the ligaments alone must support the arch of the foot, and thus bear the entire strain, although they are really intended to act only as auxiliaries to the muscles.[#] It will not be long before the ligaments become stretched, especially the inferior calcaneo-scaphoid ligament, and hence the bones permanently displaced.

How far rickety softness of the bones comes into consideration in regard to the development of flat-foot (Koenig) can not be decided yet to-day.

The other theory is that of von Meyer.[‖] It is founded on a number of careful post-mortem examinations. According to this theory, the inferior calcaneo-scaphoid ligament is not stretched, the arch of the foot not flattened, the line drawn from the middle of the os calcis to the head of the first metatarsal bone not materially lengthened. He attributes the deformity to an inward displacement of the arch, and with it of the whole foot, due to an exaggerated rotation of the astragalus. This latter is caused by an increase in the weight to be supported, faulty attitudes assumed in standing and walking, especially the latter, with turning out of the toes, wearing improper shoes, and so on.

Now, whether an abnormal persistence of the normal displacement of the astragalus on the os calcis is the original cause of flat-foot, or whether the entire foot is simply turned over in the sense of pronation, without being materially altered in its shape, supramalleolar osteotomy is indicated by both theories to be a rational operation. Without interfering with the bones or joints or soft tissues of the tarsus in any way, the result of the operation is, that the articular facets of the os calcis are placed in a plane oblique externally. Then, when the weight is brought upon the foot in walking and the os calcis should still turn inward, these facets could only be brought to a horizontal plane, and so the astragalus can no longer slip downward and inward. Thus the good results of the operation would be perfectly in accord with the first-mentioned theory of flat-foot.

Again, the operation puts the entire foot into such a position that the patient must walk on its outer border, as is the case in the normally shaped foot. Thus the second theory, that of von Meyer, which explains the deformity by the total rotation inward of the foot, is also met by the operation.

My own two cases are the following:

Case I.—E. K., twenty-four years old, baker, entered my service at the German Hospital on November 23, 1889. Two years and a half ago he had noticed the first pain in his feet. During work he had always walked in slippers. The dorsum of the foot was usually swollen at night. Two months before the patient was admitted to the hospital the pain was so excruciating, even right after getting up, that he was obliged to quit work. He then applied for help at the German Dispensary, and was attended there as an out-patient for a short while. When the usual treatment was found not to give any material benefit, the patient was sent up to the hospital for operation through the courtesy of Dr. E. Bachmann, surgeon to the German Dispensary. On examination, the two feet presented the condition shown in the two casts which have been kindly taken by Dr. F. E. Sondern, of the house staff (Fig. 1). By a misunderstanding, the casts do not include the malleoli and lower third of the leg But, nevertheless, it can be well observed that the arch of both feet has entirely collapsed, that the inner side of the foot runs in a line parallel to the ground, and is everywhere in con-

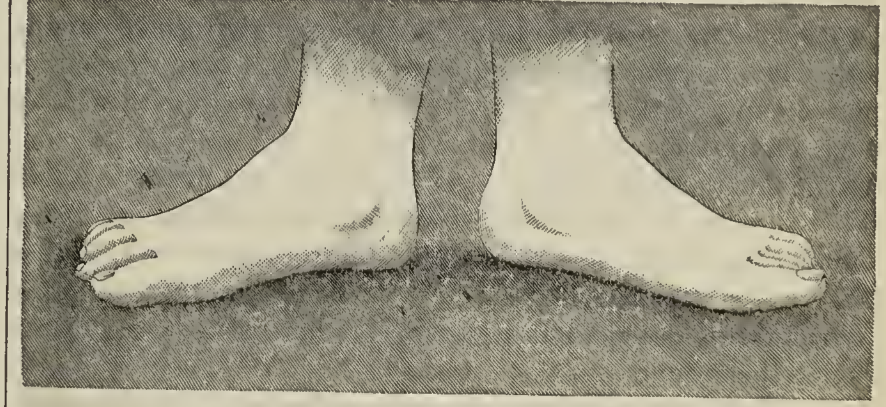

Fig. 1.

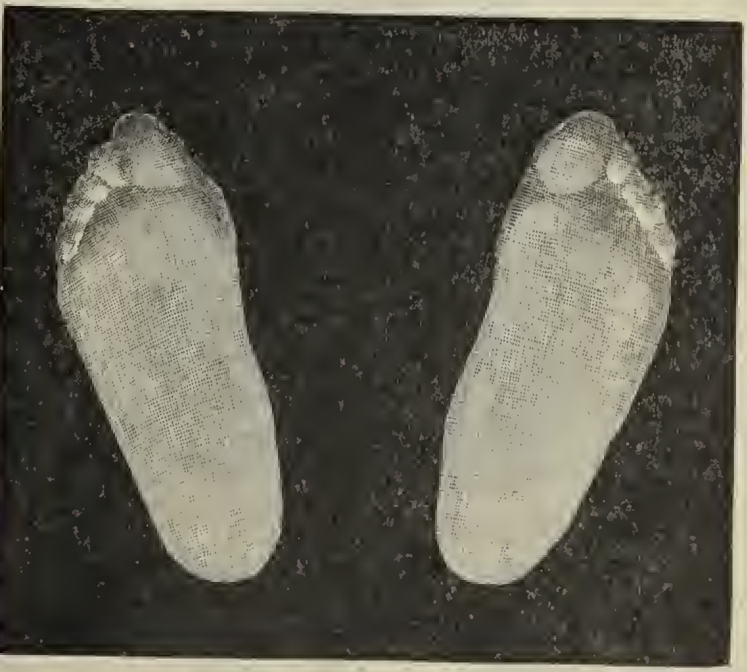

Fig. 2.

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[*] Trendelenburg, *loc. cit.* Tafel xv, A. B.

[†] *Loc. cit.*

[‡] Die Lehre vom erworbenen Plattfuss, Stuttgart, 1884. Ctrlbl. f. Chir., 1884, p. 315.

[#] Koenig, Lehrbuch d. speciell. Chir., IV. Auflage, Bd. iii, p. 640.

[‖] Ursache u. Mechanismus d. Entstehung des erworbenen Plattfusses, Jena, 1883; Ctrlbl. f. Chir., 1883, No. 18, p. 284.

tact with it. The sole of the foot left the imprint shown in Fig. 2, made from a photograph of the plaster-of Paris traces kindly taken by Dr. Henry Macdonald from the casts shown in Fig. 1. The protuberance on the inner side of Chopart's joint is not very marked. There is also present the condition of a "stiff toe" to some extent. The case appearing a suitable one for radical treatment, I resolved to perform supramalleolar osteotomy.

In doing this I followed the rules laid down by Trendelenburg. After careful carrying out of the usual preparations, an incision, half an inch long, was made down to the fibula, about two inches above the tip of the malleolus, the foot being turned inwardly by an assistant and resting on a sand-bag, which was covered by a moist antiseptic towel. Then the chisel was introduced into the wound, turned 90°, and the bone cut across. This wound being covered by an aseptic sponge, the leg was placed with its outer side on the operating-table, and the same operation performed on the tibia at about an equal distance from the tip of the internal malleolus as had been chosen on the fibula. By using a heavy, sharp, and broad steel chisel, as recommended by Macewen, this operation was done in a very few minutes. The rest of the tibia, which had not been divided, was then broken by forcibly pressing the foot into a pronounced valgus position. By these means the danger of wounding the posterior tibial artery was avoided. Now the foot could be easily reduced. It was very interesting to observe how the restoration of the arch of the instep was at once absolutely perfect. The same operation having been performed on the other leg, the wounds were dressed and both lower extremities put up in a plaster-of-Paris splint, which was strengthened by long interposed strips of thin wood, and ran up from the toes to the middle of the thigh. The knee joint was flexed to about 145° in order to relax the gastrocnemii, and special care taken to hold the foot in a somewhat overcorrected position, so that the line drawn alongside the spine of the tibia did not meet the *first* interosseous space as it does in the normal foot, the planta facing the ground, but the last one between the fourth and fifth toe. There was no reaction after the operation. The temperature never rose above 100°. Some pain during the first twenty-four hours was easily controlled by a hypodermic of morphine.

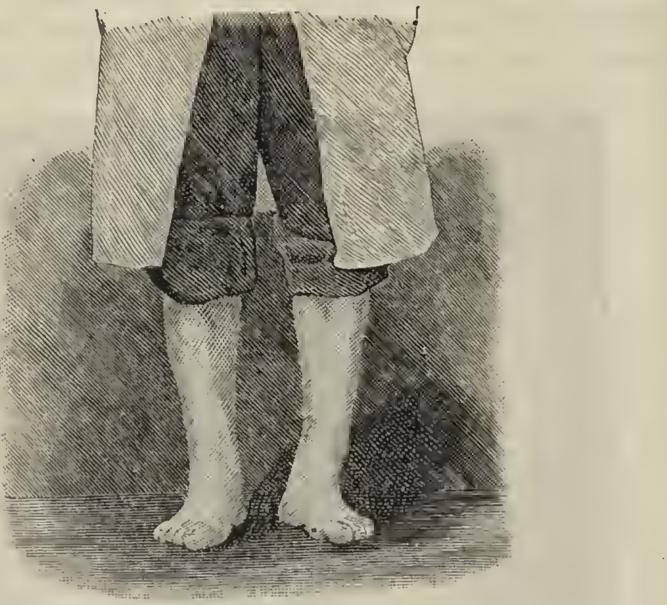

Fig. 3.

When the first dressing was changed on the thirty-fifth day, the wounds were found to be closed, except one, which was still superficially granulating. It rapidly healed under an ointment dressing. At the end of the sixth week the patient got up on crutches. I kept him in the hospital until now to watch the result, the time since then being used by application of massage, foot baths, and exercises.

The result as it presents itself to-day—three months and a half after the operation—is best seen in these two casts, which have been taken ten days ago and include the lower half of the leg, and in the photographs kindly taken by Dr. F. H. Zitz, of the house staff, last week. We notice:

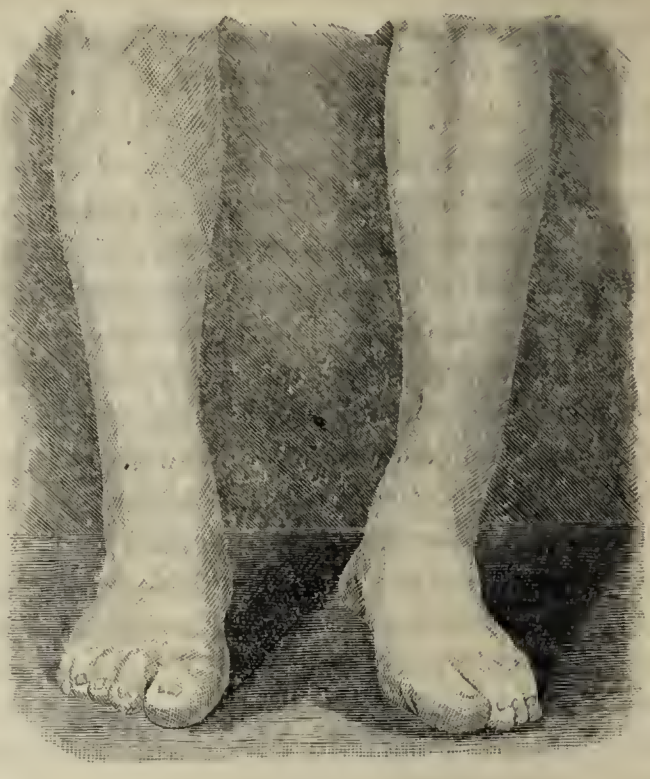

Fig. 4.

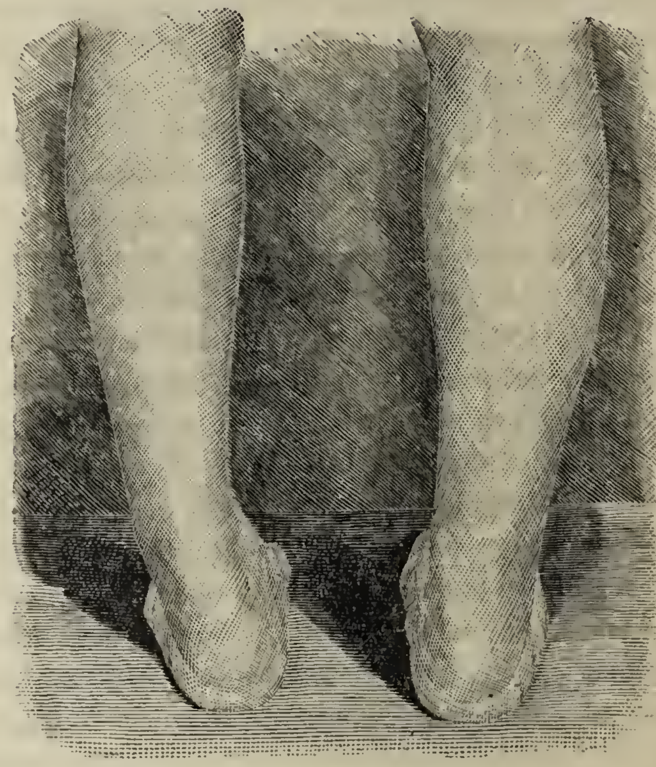

Fig. 5.

Left Side.—Perfect position of the foot; arch fully restored (Fig. 6, trace); standing and walking cause no pain. There is no stiffness in the tibio-tarsal joint; only the extreme plantar flexion is still somewhat impeded, but gradually improving. The patient says that he can walk and stand on that foot all day long without the slightest inconvenience. The former excruciating pain, which rendered the patient a perfect invalid, has entirely disappeared.

Right Side.—Plantar arch restored to perfection (Fig. 6, trace). Slight inward rotation of the foot, evidently caused by improper fixation of the upper fragment by the nurse, who held it during hardening of the gypsum. [In applying the splint with the help of one assistant, I had the foot held in the reduced position by the second assistant—this being the principal part of the operation—and the leg by the hands of a nurse.] Standing and walking painless in the morning. After a few hours, exercise causes some pain and tires out. But the pain is different from that before the operation, undoubtedly due to the somewhat twisted course of the muscles. The constant improvement of the patient gives hope that the cure will, nevertheless, soon be complete.*

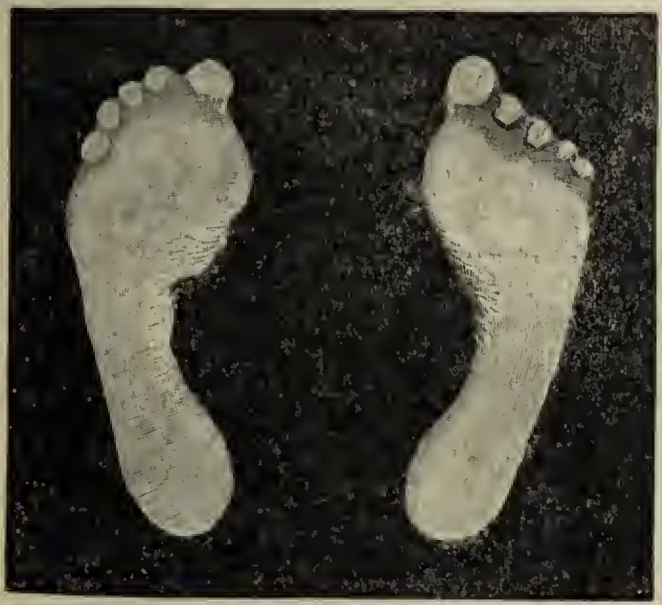

Fig. 6.

Case II.—P. B., butcher, twenty years old, was admitted to the German Hospital on December 10, 1889. Two years ago he noticed the first pain in his right foot. He had to work very hard, carrying heavy weights and standing all day long. He got easily tired. The pain steadily increased, especially below the external malleolus, and also slightly attacked the other foot. Six weeks before entering the hospital he was obliged to give up his situation. As long as he can remember, the feet were peculiarly shaped. The casts, also taken by Dr. F. E. Sondern, demonstrate this nicely. There is an adduction and slight supination in Chopart's joint, as found in talipes varus, which nearly makes it seem as if there were no flat-foot at all. But examination of the right foot revealed the dislocation of the head of the astragalus, forming a marked prominence below the internal malleolus. In correcting the adduction of the forefoot the flattened arch becomes very evident. The diagnosis was rather difficult. The left foot is less affected, but also painful. Patient of slender build, size six feet, that of the feet eleven inches. As the patient suffered so much, I resolved to operate on him. Supramalleolar osteotomy was performed on December 13th in the same manner as above described. It was also followed by no reaction. First change of dressing on January 14th, five weeks and a half after the operation; wounds closed. On January 23d patient walked for the first time on crutches. He left the hospital February 23d. Although the peculiar combination of the original deformity with flat-foot did not make the case a very suitable one for operation, the result as it presents itself to-day, exactly three months after the operation, is very satisfactory. The arch of the foot, though not really flattened before the operation on account of the adduction and supination of the anterior portion of the foot, is very marked. Patient walks several hours in laced shoes with the support of a cane. The pain below the outer ankle has left him. Only now and then a slight drawing sensation is noticed. The walk improves rapidly. It is not yet steady when the patient is barefooted. Patient will soon be able to resume his former occupation. (The two patients were presented at the meeting.*)

In criticising the result of supramalleolar osteotomy in the operative treatment of flat-foot, as demonstrated in my two patients, it does not need a trained eye, Mr. President, to see, as far as the position of the feet is concerned, that it could be improved in two of the four feet operated upon. It certainly would be still more perfect in these two cases also if I had changed the splint between the tenth and twelfth day after the operation and corrected the position, as Trendelenburg recommends to do. This is no doubt an essential feature in the after-treatment. As my experience in the two cases of traumatic flat-foot had told me that the position maintained by the first splint was such as to need very little or no correction at all, I tried to simplify the after-treatment and effect the cure under the first dressing. But I think this was wrong. Slight mistakes may occur during the application of the first splint, and may be easily corrected if the splint is changed and the position revised.

In my two cases the position of the feet is *over*corrected. I did that purposely. I intended to find out whether the application of a brace, to be worn later for a short while, in order to maintain the new position, as Trendelenburg has done, could thus be avoided. As it seems to me, after this rather small and short and insufficient experience, slight overcorrection and wearing a tight-laced shoe may make the application of a brace unnecessary and the after-treatment therewith more simple. If correction is overdone, there may result such an angular displacement of the fragments at the point of osteotomy as to nearly produce a traumatic talipes varus.

The result, as shown in my two cases until date, certainly tends to sustain Trendelenburg's hope that supramalleolar osteotomy can cure flat-foot in a comparatively short time. The restoration of the arch, which is so perfect and surprisingly easy after the operation, seems to be permanent. Whether it will prove to be so eventually, after heavy work has been performed, is a question that the future must decide. But I think there is no reason to fear a relapse. Whether, further, it will always be necessary to operate on both bones or to perform osteotomy of the tibia only, as Hahn has done, still remains to be decided. How far the results of this treatment will reflect upon the theory of flat-foot is not easy to determine. It certainly shows, as I believe, that the change in transmitting the weight through the tarsus is the principal cause of all the trouble and pain the patient complains of. That the patients are entirely relieved of their previous constant pain by this operation is beyond doubt.

Whether Ogston's operation must be added now and then, as Hahn proposed, will depend upon each case. Perhaps it may be necessary or advisable in the extreme cases of talipes valgus.

My own impression is that supramalleolar osteotomy, as proposed by Trendelenburg, is a valuable and important contribution to the many ways of curing flat-foot by operation

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* When the patient left the hospital, on March 21st, he stated that all his pain had ceased. He could walk for about an hour without trouble and was about to resume work.

* At the time of correcting the proof the patient walked easily without any support.

—one which in course of time may perhaps prove to be the best of all. It seems to be worthy to be thoroughly tested by those who have a large material at their command.

The following brief conclusions may with propriety be drawn:

1. Supramalleolar osteotomy seems to be the most rational operation for the radical cure of flat-foot, as its object is to correct the deformity without interfering with any of the tissues of the foot proper. It therefore deserves trial.
2. In far-advanced cases (talipes valgus) it will most probably give a good result too, and may advantageously be combined with Ogston's operation (Hahn).
3. If osteotomy has been performed, the position of the foot can be easily corrected or overcorrected.
4. The tibia and fibula should be cut close to the tibiotarsal joint and the latter not injured.
5. As soon as the foot is pressed into a normal position it will be seen that the arch is completely restored.
6. Between the tenth and twelfth days the splint should be renewed and the position of the foot re-examined, and, if necessary, definitely corrected.
7. The patient may get up in about five to six weeks after the operation.
8. A slight overcorrection may be advisable to guard against recurrence and the necessity of temporarily wearing a supporting brace.

A CASE OF FRACTURED CLAVICLE

ATTENDED BY

NON-UNION AND EXTENSIVE FUNCTIONAL DISABILITY.

*COMPLETE CURE BY WIRING.**

BY CHARLES A. POWERS, M. D.,
SURGEON TO OUT-PATIENTS, NEW YORK HOSPITAL.

ALTHOUGH the clavicle is one of the bones that are most frequently the seat of fracture, non-union is a result of exceeding rarity. The following brief extracts from two authorities on fractures seem sufficient warrant for the narration of the subjoined case. Stimson † says: "Failure of union is rare. . . . A few cases of non-union after fracture have been recorded, and it is worthy of note that it does not appear to have resulted in any diminution of function. In one case carefully examined by Hamilton, where there was ligamentous union and overriding to the extent of half an inch, the arm on the affected side was in every way as strong and as fit for use as the other. In the recorded cases of pseudarthrosis the fracture has generally been in the middle third, rarely in the inner one.

"In only two cases has the pseudarthrosis received operative treatment. The seton was used in both, and successfully."

Hamilton ‡ says: "Whatever may be the degree of displacement or the condition of the system, it is very seldom that it [the clavicle] refuses to unite altogether or that the union is ligamentous.

"In Muhlenberg's tables of 656 cases of delayed and non-union of long bones there is but one example of non-union of the clavicle.

"And in the few cases found upon record of a ligamentous union, the functions of the arm do not seem to have suffered any serious ultimate injury."

J. G., twenty-nine years of age, a muscular driver of a lager-beer wagon, entered the service of Dr. W. T. Bull at the New York Hospital, September 12, 1889, giving the following history: It was said that three months previously he had fallen from his truck, the wheel passing over his shoulder. He went to a hospital, where he was told that his collar-bone was broken. His arm was bandaged to the side, and at the end of three weeks he was discharged from the hospital and told to wear the bandage for two additional weeks, and to then commence using the arm.

He followed this advice, but found, upon removal of the dressing, that there was much pain at the seat of the fracture and that movements at the shoulder joint were practically impossible. Some two weeks thereafter he sought treatment at a dispensary, and was given a liniment and told to rub the shoulder and to exercise the extremity freely. The functions, however, did not improve. and three months after the original injury he applied for treatment, as above stated, at the New York Hospital.

Examination at this time revealed a fracture at the middle of the right clavicle. There was no union; there was independent and free mobility of the fragments, the outer end of the inner fragment pointing backward and upward, the inner end of the outer fragment taking a direction forward and downward. There was overriding to the extent of an inch and a half. On drawing the shoulders firmly backward the deformity could be so far reduced that the fragments overlapped but half an inch. There was marked atrophy of the deltoid, and the arm on the affected side was less in circumference than its fellow. Active motion at the shoulder was practically lost. He could abduct the arm but a few degrees, while rotation, flexion, and extension were almost entirely absent.

He was subjected to operative procedure by Dr. Bull. A three-inch incision was made in the axis of the clavicle at the seat of the fracture. A fairly formed synovial membrane was found between the ends of the bones. The ends were freshened by the rongeur forceps, holes bored antero posteriorly, and the fragments approximated and held in place by silver wire. A small drainage-tube was inserted and the wound was closed by sutures. An antiseptic dressing was applied and the limb immobilized. The dressing was changed for the first time on the eighth day. Primary union was found and the tube was removed. The limb was again placed in close confinement.

He was referred to the out-patient department of the hospital on the twenty-eighth day, and on the fiftieth day (after operation) the union was found to be complete and the dressings were discontinued. The silver wire had not undergone encapsulation and was removed. The contour of the collar-bone had been restored, and careful measurement showed it to be but a quarter of an inch shorter than its fellow. The deltoid was greatly atrophied and the circumference of the arm at its middle was two inches less than on the opposite side. Movements at the shoulder joint were almost entirely absent.

The patient was subjected to a systematic course of massage and the faradaic current was administered twice weekly. He was encouraged in making all possible active motion.

The functions slowly but gradually improved, and on January 15th (four months after the operation) he was able to resume in part his work as driver. Under this very active exercise improvement was rapid, and at this time, April 15th, the cure may be said to be complete. The circumference of the arms is the same on both sides, and while the deltoid is as yet slightly less full than its fellow, the functions are completely restored.

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* The patient was exhibited before the Surgical Section of the New York Academy of Medicine, at the meeting of April 14, 1890.

† Treatise on Fractures, page 337.

‡ Fractures and Dislocations, page 218.

His duties compel him to lift heavy kegs of beer from the ground to the wagon, and in the performance of this arduous labor he finds no trouble. He says that his arm is in all ways as strong and as useful as it was before the accident.

The extreme degree of disability which attended this case may very fairly be attributed to the non-union. It could not well be due to contusion at the time of the original injury, for while the patient states that he thinks the wheel of the cart passed over his shoulder, he also says that no swelling, pain, or ecchymosis followed.

It could not have been consequent upon pressure directly applied to the brachial plexus in the original dressings, for he states that no axillary pad was used.

Nor can we assume that it was consequent upon disuse, for he endeavored to commence active motion at the time at which union might have been expected, some five weeks after the accident, but was unable to carry it out.

I would call attention to the rapid improvement which accompanied the active exercise which was forced upon him when he resumed his work. His gain was far greater under one month of this than it had been in the preceding four months of electricity, massage, and the like.

35 West Thirty-fifth Street.

REPORT OF A CASE OF CEREBRAL THROMBOSIS.

FORTY-FOUR CONVULSIONS.

By E. R. AXTELL, M. D.,

DENVER, COL.

For the past six months I have had under my professional care a case of pulmonary consumption in a youth aged twenty. He had been coughing for a year, and in that time had had a progressive increase of all the symptoms of that arch monster. He had excessive anæmia, weak pulse, and a hæmic cardiac murmur.

He complained of great weakness and was greatly reduced in strength. Slowly and gradually the patient got worse and worse. Cough very severe and the dyspeptic symptoms most prominent.

During December last I was called to see him a number of times. During the latter half of the month he complained of much headache and sleeplessness, and his friends noticed in him more irritability of temper, with transient excitement and much somniloquism. Knowing that the end was near, this was explained by weakness, by nervous disturbance, and by the poor quality of blood; but I can now recognize it as possibly premonitory symptoms of our cerebral thrombosis which was to come.

On the twenty-eighth of the month, during the afternoon, the patient was noticed to mumble his words, to stutter. His intellect was unimpaired, but the patient could not say some words at all. The condition came on slowly. When asked to repeat "Give me a glass of water," he could not do it. The word glass seemed to embarrass him a great deal. He could stutter, however, "Give me a cup of water." Patient felt keenly his defect and strove to correct it, but could not. While perfectly conscious, yet he was slightly stupid and complained of some pain over the left side of his head. From this time the stupid condition gradually developed into coma, from which the patient would arouse at times and call his mother, but would say nothing else.

The next day the right side was noticed not to move, neither hand nor foot. And with this there was incontinence of urine. Face not affected. The patient remained stupid, and at intervals of from fifteen to forty-five minutes would press his left hand to the left side of his head and would make a cry of pain, at the same time distorting his features to a great extent. That evening, about twenty-eight hours after the first symptoms had been noticed, spasmodic twitching of the muscles of the left side occurred. This was quite noticeable and I was informed of it at once. This would occur irregularly, and between the periods the patient would lie motionless.

The next day at noon-time the patient had his first pronounced convulsion. This was described to me as commencing without a cry, by slight spasmodic clonic contraction of the muscles of both arms, always less marked on the right side, together with similar contractions of the muscles of the neck, face, and legs. Gradually the contractions became more violent, and the patient would shake all over, and would even shake the bed quite violently. The eyes were staring and often turned in. This was not constant. The respiration at first seemed to be abolished, but later it was more rapid. The acme reached, a diminution would occur in force and frequency of the spasmodic contractures, and as it was going away a low, prolonged cry of pain would occur and the patient would then relapse into his comatose state, to repeat the convulsion in an hour or two.

For fifty hours he averaged about a convulsion like this every sixty minutes, and morphine and the bromides had no effect. The patient took no nourishment, although he could swallow small quantities of fluid when pressed to do so. Not once during his comatose state did he cough or expectorate, but lay perfectly still and breathed, if anything, less frequently than before the convulsions. The convulsions, as one followed another, became, if possible, more strong, and the patient finally died of exhaustion, with probably spasm of the heart.

An autopsy was made five hours later, and a most typical thrombosis filled the middle cerebral artery on the left side. The clots were recent, and could be taken whole from the vessels. They looked like dark angle-worms. The vessel contained clotted blood throughout its extent and down to its union with the vessels constituting the circle of Willis. No apparent disease of the vessel wall was found anywhere. The brain in this region was anæmic, but no breaking down of the cerebral substance had occurred. The brain in other parts was normal. The lungs were extensively destroyed—almost *nil* in working capacity. Heart fatty, atrophied, and filled with dark grumous clots. Valves and endocardium normal. Other organs normal.

From the history and autopsy, it is probable that some tubercular matter from the lungs had entered the circulation and become impacted in the capillaries forming the termination of the middle cerebral artery, thus causing the extensive clot which filled the entire vessel, and that without any structural alteration of the vessel wall; or that a small clot of blood formed in the heart during its distressed action, and that it, being washed into the circulation, produced the lesion described. From this clot all our symptoms were produced. The immediate result was local anæmia, and from it convulsions and hemiplegia. In the case no softening had occurred; but this would have followed in a short time if the patient had lived.

THE
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NEW YORK, SATURDAY, MAY 24, 1890.

AN UNUSUAL FORM OF LUNG DISEASE.

In 1886 an unusual prevalence of pulmonary disease began to be noticed in the Mississippi Valley, and the records show an increasing ratio of mortality during the next three years. In 1887 this attracted the attention of Dr. William C. Glasgow, of St. Louis, and he describes in the March number of the American Journal of the Medical Sciences a disease which appears to present characteristics, both clinical and pathological, sufficiently distinct to admit of its differentiation from other similar diseases. In seventeen autopsies the greater part of both lungs was found infiltrated with a morbid material and certain limited portions were consolidated. Where it was least infiltrated the lung was of a black-brown color; on pressure, a firm, sodden feeling replaced the normal pulmonary elasticity; it crepitated with resistance, and would not sink in water. Where it was consolidated the lung was of a light-brown or steel-gray color and absolutely solid, no crepitation could be obtained by pressure, and the piece would sink instantly when placed in water. The consolidation occurred in irregular areas, most frequently in the lower part of the left upper lobe posteriorly. Clinically the disease may be divided into two types—the parenchymatous, where the areas of consolidation are extensive and rapidly developed, the symptoms showing the greatest intensity; and the bronchial, where areas of consolidation are wanting or limited. In the latter the symptoms are essentially different from those in the former and not constant, and the disease may be distinguished from bronchitis by these physical signs: Percussion gives a peculiar wooden or deadened sound, sometimes tympanitic, and the sense of resistance is increased. Vocal and pectoral fremitus is increased. Inspiration is lengthened, of high pitch, and immediately followed by expiration of a lower pitch. Râles are largely inspiratory and there are sudden and frequent variations of the abnormal sounds.

The parenchymatous type is more likely to be mistaken for croupous pneumonia. Both are ushered in by a chill, but in this disease the succeeding fever is irregular, and during the remissions there may be repeated chills or hot and cold sensations, and it terminates by lysis. At first there is no pain and there is no cough, but these may appear later. The face has a calm, restful look, and is usually somewhat pale. The pulse is full, compressible, rarely over 120, and sometimes very slow. Respiration is not visibly accelerated. On percussion, flatness is found over irregular areas and a deadened sound over the rest of the lungs with increased vocal and pectoral fremitus. On auscultation, the crepitant râle and the râle redux are not discernible; the respiration is bronchial over the flat areas and resembles that in the bronchial type of the disease over the remainder of the lung. The sputa, which may be profuse, are clear and viscid, often mixed with blood. Death is sudden.

It would seem at first that these types were in reality only stages of the same disease, but Dr. Glasgow maintains that such is not the case, because he has never seen the bronchial merge into the parenchymatous type, and because the latter with its extensive areas of consolidation is observed during the first days of illness. There appears to be a distinct tendency of this disease toward tuberculosis, as whenever either form persists beyond a certain time the *Bacillus tuberculosis* may be found in the sputa. It seems to be a septic disease, and many facts suggest that it may be contagious.

During the month of January, 1890, when influenza was prevalent in St. Louis, large numbers of cases of this disease appeared, usually of the bronchial type, and Dr. Glasgow is inclined to think that this lung disease, as well as a form of throat disease described by him last year, is a manifestation of the prevalence of influenza in that region during the last three years. It is certainly worthy of notice, whether this supposition is correct or not, that the pulmonary complications which played so important a part in the late epidemic should present the same characteristics as those which had previously attracted attention.

The treatment advocated for the parenchymatous type is with large doses of benzoate of sodium with acetate of ammonium, supplemented by large doses of tincture of chloride of iron, with a moderate use of stimulants. Careful and constant attention is necessary, as there is a marked tendency to heart failure.

SENILE DYSURIA.

In a recent number of the Lyon médical Dr. Mollière describes a form of dysuria in elderly men frequently confounded with that resulting from hypertrophy of the prostate, but differing from it in its symptomatology and pathology, and demanding a form of treatment essentially different.

The clinical picture is that of an elderly man who, after some indiscretion in his diet, has become suddenly and absolutely unable to micturate. His bladder is distended, he suffers much pain, but he has no fever. For some time previous to this attack he has had an imperious desire to urinate much more frequently than before, especially when he passed from a condition of relative repose to one of activity. Rectal examination causes a great deal of pain and usually gives no information, but sometimes a large, diffuse tumefaction may be felt in the region of the prostate.

When there is hypertrophy of the prostate, one of the first signs is a dribbling of the urine night and day; much urine is occasionally voided, but the bladder is never wholly emptied, and there is no pain. The urine stagnates in the bladder and cystitis develops, but phlebitis is much less imminent than in the condition now being considered, where an infectious phlebitis may be developed with frightful rapidity.

The lesion in this form is a hæmorrhoidal condition of the veins of the vesico-prostatic plexus, caused by a mode of life which has rendered the urine peculiarly irritating, and by constipation; similar at all points to inflamed hæmorrhoids, which obstruct the passage of the urine. Dr. Mollière anticipates anatomical objections to this view, and declares that the veins in the small pelvis of old men present so many anomalies by reason of their pathological dilatations as to render their system an inextricable puzzle.

The causes of the pain which these patients suffer he considers to be the distension of the bladder, the irritating quality of the urine, and the tenesmus. The irritating quality of the urine is the chief of these. In essential polyuria, where the urethra and bladder are healthy, the quantity of watery urine is so enormous and so suddenly secreted that there is a paralysis of the bladder with lowering of its neck, causing retention, but these patients do not complain of any pain, though the distended bladder can be felt and explored without trouble. The tenesmus resembles that experienced by patients suffering from calculus.

In senile dysuria catheterism is dangerous and should be performed only under conditions of absolute asepsis with soft and pliable instruments incapable of producing abrasions. When it is not easy, above all when it draws a little blood, it should be abandoned and suprapubic aspiration of the bladder substituted. Often the flow of urine will be re-established on the following day, and the patients should be placed on a regimen calculated to produce a non-irritating character in the urine. If cystitis is present, as catheterism is so dangerous, copious draughts are advised, which, by their quantity or by the active principles they contain, shall cause a flushing of the bladder. When catheterism is easy and not painful, an infected bladder may be successfully washed out in addition to this hygienic treatment. Tenesmus is controlled by subcutaneous injections of morphine. In some cases the infectious phenomena and sharp pains are such that operative procedures are at once called for.

MINOR PARAGRAPHS.

QUESTIONABLE ADVERTISEMENTS.

The second volume of the Physician's Directory of the United States is rendered interesting, rather than valuable, to the profession by the cards of quacks, mind-healers, diploma-manufactories, and the like. The compound-oxygen people advertise quite freely, as do some questionable-looking private hospitals. The great infallible Indian cancer paste is there to be found, with Fowler's cure-all, "the wonder of the age," and the Druidic Banchoreion, which scorns to take money for diplomas; next follows the self-assertive Bureau of Christian Science, alongside of healing mediums and great magnetic healers. It is not difficult to understand why the publishers accept these openly quackish advertisements, but how is it that the quacks themselves can find it to their advantage to pay for the very liberal proportion of the space which they have taken? Their wares are for sale and they must hope to meet, through this medium, with those who will become their customers. The exhibition is not a reassuring one as regards the status of the profession. It might prove an instructive lesson, we think, if some one would take the trouble to go over the advertising pages in that book and make an analysis of the ways and means by which the charlatans of the country expect to gull their fellow-men.

AN IRIDECTOMY ON THE QUEEN OF PERSIA.

The Medical Press and Circular recounts some of the difficulties attendant upon an iridectomy performed, at Vienna, on the chief consort of the Shah of Persia. The Queen has been the subject of glaucoma, and has resided for some time past at the Austrian capital in order to undergo treatment. The disease began its course about four years ago in the right eye and has run on to complete destruction, and the journey to Europe was undertaken in the hope of saving the left eye from a similar fate. Iridectomy was performed by Professor Mauthner and Professor Fuchs. The medical men have been troubled not a little in obtaining for their patient that measure of quiet and rest essential to the best results of the operation. The affectionate officiousness of the Queen's retinue, consisting of four ladies, three gentlemen, four eunuchs, and one physician, has been incorrigible, since they are all animated by a constant and embarrassing curiosity to know how things are going on, and are not to be deterred from invading the sick-chamber in quest of the latest information.

THE BEST AGE FOR THE OPERATION FOR HARE-LIP.

M. Forgue, discussing this subject in the Gazette hebdomadaire de médecine et de chirurgie, believes that the question should be settled by statistics. Reports by different authorities are, however, conflicting. Results are modified by numerous causes, and the operation should not be held responsible for the defective conditions usually existing in the ill-formed. Death occurring several weeks after the operation is usually to be attributed to these unfavorable natural conditions. No rule can be laid down for all cases; the decision must depend largely upon the character of the case. A small fissure in a strong child may be closed at once. In certain ill-nourished children the operation should be postponed till the second three months, while very complicated cases should not be attempted under the age of two years. It is unwise in any case to wait until the fourth or fifth year, for the parts have then become so fixed that a satisfactory result can rarely be obtained.

EAR DISEASE RESULTING FROM INFLUENZA.

Dreyfuss and Schwabach describe in the Berliner klinische Wochenschrift a peculiar form of ear disease which they consider frequently results from influenza. Ecchymoses, which vary in size from that of a pin's head to that of a pea, occur in the tissue of the drum-membrane, and sometimes the entire surface of the membrane is covered by a hæmorrhagic vesicle. Associated with this there is an exudation, either serous or purulent, rarely hæmorrhagic. The most successful treatment appeared to be paracentesis in the early stages. Abstracts of both articles are given in the Centralblatt für klinische Medicin. We do not remember to have seen any account of this form of ear disease as resulting from influenza here, but we think that the number of cases of middle-ear disease, particularly of the acute catarrhal form, has been increased by the epidemic.

AN OPERATION FOR DEFORMITY FROM PROMINENT EARS.

An operation which Dr. W. W. Keen, of Philadelphia, describes in the Annals of Surgery appears to be decidedly an improvement on the one described by the late Dr. Edward T. Ely, because the skin in front is left intact and so no scar visible from before is produced. Dr. Keen's method is to remove a long oval piece of integument from the posterior surface of the auricle, and then to remove in the long axis of the oval excision a long, narrow piece from the cartilage, V-shaped on cross-section like the furrow made by a plow. The edges of the incision are then stitched together and the deformity is rectified. As this operation is entirely for the purpose of improving the patient's appearance, it is evident that it is of importance to place the scar where it will be as little noticeable as possible, and it will be difficult to find a better situation than that selected by Dr. Keen.

ACETIC ACID AS AN ANTISEPTIC.

A paragraph in a recent number of the Wiener klinische Wochenschrift is devoted to a consideration of the results of investigations which have lately been made as to the germicidal value of acetic acid in comparison with correspondingly strong solutions of carbolic acid. The results do not seem to have borne out the expectations in favor of acetic acid The suggestion which has been made that this acid, in the form of household vinegar, could be conveniently used as an antiseptic wash during the parturient period is also negatived. It is pointed out that common vinegar rapidly develops fungous growths, which render it singularly unfit for intra-uterine employment. On the other hand, vinegar has been much used in America as an obstetrical hæmostatic, and the results obtained with it have not been such as to make it looked upon here as favoring sepsis.

THE SOCIETY OF THE ALUMNI OF CHARITY HOSPITAL.

At a meeting held on the 13th inst., Dr. H. H. Hagan presented a case of multiple angeiomata in a child of two years. There were about thirty of the tumors situated on the head, face, body, and extremities. Dr. Clement Cleveland showed an interesting specimen—a very much thickened Falloppian tube removed from a patient suffering from chronic pyosalpinx opening into the colon. The tube was so much thickened as to be mistaken for the ovary. Dr. W. L. Carr read a paper on Laryngismus Stridulus, which gave rise to an animated discussion.

THE CRYSTAL BROOK SUMMER RESORT FOR DELICATE CHILDREN.

Crystal Brook, distant from New York about sixty miles, on Mount Sinai, Long Island, was noticed in the Journal last year under the heading of "A Country Resort for Children that are not Poor." The announcements for the summer of 1890 are just out and show that the same management and plan of operation remain in force. Dr. Jerome Walker, of Brooklyn, is the proprietor of the Crystal Brook Home. He advises that children sent to him be furnished with plain clothing that will not hamper their enjoyment or interfere with their health and comfort. Contagious cases will not be received.

HOSPITAL DEVELOPMENT IN BERLIN.

The new children's hospital at the north of Berlin, says the Lancet, has completed two of its pavilions, one of which will be for the reception of diphtheria cases. Another pavilion, for scarlet fever, will be built within the next six months. The concerted action of the medical societies, looking to the erection of hospital homes for consumptives, has resulted in the appointment of a committee, consisting of Dr. Leyden, Dr. Fraenkel, and Dr. Fraentzel, to plan and execute the gradual separation of phthisical from other classes of hospital inmates.

THE NEW YORK SKIN AND CANCER HOSPITAL.

The directors of this institution appeal for public aid to enable them to move it to some more suitable location. The building now occupied was taken about eight years ago, and was then considered to be well situated. Since then huge tenements have been erected around it, and the elevated railway, passing its door, has become more and more disturbing and detrimental to the patients. The directors, therefore, think that the time has come to seek a quieter and pleasanter locality.

OCCULT PRESCRIBING.

The obsolete names of drugs are "legion," and may at times be found useful when the patient or his friends have a too inquisitive disposition. The following, according to the Pharmaceutical Record, is a "blind" kind of prescription which was actually sent to a pharmacy for dispensing:

Aquilæ albæ........................ gr. vj:
Pulv. ipomææ purgantis.............. gr. xij. M.

Calomel and jalap are the drugs here intended to be prescribed, and without doubt the obsolete words were used to disguise them to the patient rather than to the dispenser.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 20, 1890:

DISEASES.	Week ending May 13.		Week ending May 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever........... ..	10	4	11	3
Scarlet fever...............	96	5	75	8
Cerebro-spinal meningitis.....	5	4	2	2
Measles..................	386	32	386	34
Diphtheria.................	93	22	107	30
Varicella..................	10	0	8	0

The American Laryngological Association will hold its twelfth annual congress in Hopkins Hall of the Johns Hopkins University, Baltimore, on May 29th, 30th, and 31st, under the presidency of Dr. John N. Mackenzie. The programme includes an address by the president, also the following papers: An Anomaly of the Thyreoid Body, by Dr. John N. Mackenzie, of Baltimore; Look beyond the Nose, by Dr. S. Solis-Cohen, of Philadelphia; A New Operation for Deviation of the Nasal Septum, by Dr. Morris J. Asch, of New York; Posterior Hypertrophies of the Middle and Inferior Turbinals, by Dr. Harrison Allen, of Philadelphia; Notes on a Case of Myxomatous Tumor of the Naso-pharynx in a Child Six Years of Age, by Dr. Alexander W. MacCoy, of Philadelphia; A Case of Naso-pharyngeal Tumor with Unusual Clinical History, by Dr. Charles H. Knight, of New York; Adenoid Tissue, its Development and Early History, by Dr. H. L. Swain, of New Haven; Supplementary Report on Cartilaginous Tumors of the Larynx and on Warty Growths in the Nares, by Dr. E. Fletcher Ingals, of Chicago: A Case of Myxoma of the Epiglottis, by Dr. S. O. Vander Poel, of New York; Hoarseness and Loss of Voice caused by Wrong Vocal Method, by Dr. S. W. Langmaid, of Boston; On the Condition known as "Chorditis Tuberosa," by Dr. Clarence C. Rice, of New York; Peculiar Cases of Unilateral Paralysis of the Lateral Crico-arytenoid Muscle, by Dr. E. Fletcher Ingals, of Chicago; A Case of Bulbar Disease with Unusual Symptoms, causing Permanent Unilateral Paralysis of Abduction in the Larynx, by Dr. F. H. Bosworth, of New York; The Diagnosis and Treatment of Cancer of the Larynx, by Dr. D. Bryson Delavan, of New York; Notes on an Interesting Case of Aneurysm, by Dr. George W. Major, of Montreal; Stricture of the Œsophagus from Interstitial Thickening of its Walls, by Dr. John O. Roe, of Rochester; and The Laryngology of Trousseau and Horace Green, by Dr. F. Donaldson, of Baltimore.

The New York State Medical Association.—The sixth annual meeting of the Fifth District Branch will be held in Wurzler's Building, 315 Washington Street (over the Post-office), Brooklyn, on Tuesday, May 27th. Papers are to be read as follows: Observations on Rheumatism, especially as involving the Tonsils, by Dr. W. Henry Thayer; Some Personal Observations upon the History and Claims of Hypnotism, and its Employment in certain Diseased Conditions, by Dr. H. Ernest Schmid; Ectopic Gestation, especially with Reference to Diagnosis and Therapeutics, by Dr. George Tucker Harrison; The Surgical Treatment of Cough in Diseases of the Upper Air-passages, with Demonstration of Instruments and Specimens, by Dr. J. W. Gleitsmann; and A Few Clinical Notes on a very Interesting Case of Fracture of the Lower End of the Femur, by Dr. C. Ellery Denison.

The North Carolina State Medical Society will hold its thirty-seventh annual session at Oxford on May 27th, 28th, and 29th, under the presidency of Dr. George Gillett Thomas, of Wilmington. The programme includes the following items: Report on Practice, by Dr. L. G. Broughton; Report on Surgery, by Dr. John H. Faison; Case of Psoas Abscess, by Dr. D. A. Stanton (discussion by Dr. J. McKee and Dr. J. H. McMullen); Report on Obstetrics, by Dr. B. F. Dixon's substitute; The Use of the Curette after Labor and Abortion, by Dr. J. W. Long (discussion by Dr. H. T. Bahnson and Dr. S. B. Booth); an annual essay, by Dr. I. Wellington Faison; Report on Gynæcology, by Dr. George W. Purefoy; Report on Materia Medica, by Dr. D. G. Caldwell; Report on Anatomy and Physiology, by Dr. W. J. Lumsden; Report on Pathology and Microscopy, by Dr. J. M. Baker; Report on Therapeutics, by Dr. J. M. McGee; an annual oration, by Dr. W. J. Jones; The Differential Diagnosis of Spinal Affections, by Dr. W. A. Hammond, of Washington, D. C.; The Insane of our State outside of the Public Institutions, by Dr. J. A. Hodges. A new Board of Medical Examiners will be elected at this meeting.

The Importation of Foreign Natural Mineral Waters.—At a meeting of the New York County Medical Association, held on May 19th, the following resolution was adopted:

Resolved, That the New York County Medical Association, a representative body composed of five hundred practicing physicians in the city of New York, believing that it is for the best interests of the people of the United States that all foreign natural mineral waters should be imported free of duty, respectfully urges upon the National Senate and House of Representatives that the provisions now in force relating to foreign natural mineral waters, and to the bottles in which they are imported, should be re-enacted in any tariff which is sanctioned by them.

Municipal Aid to the Blind of New York.—The Commissioners of Charities and Correction have appointed Dr. Henry S. Oppenheimer examiner of the blind for their department. There are about six hundred applicants annually for a medical certificate of blindness, and those who obtain it draw equitably from a sum set apart for them out of the excise fund.

The Medico-chirurgical College, of Philadelphia.—Dr. J. M. Anders has been transferred from the chair of diseases of children to that of clinical medicine; Dr. Ernest Laplace has been made professor of pathology and clinical surgery; and Dr. Samuel Wolfe has been made professor of physiology.

The Medical Missionary Association of China held a meeting in Shanghai on the 19th, 20th, and 21st inst., under the presidency of Dr. H. W. Boone.

The Manhattan Eye and Ear Hospital.—Dr. Charles H. Knight has been appointed surgeon to the Throat Department.

The New York Cancer Hospital.—Dr. B. Farquhar Curtis, Dr. Frank Hartley, and Dr. Paul Outerbridge have been appointed attending surgeons, and Dr. Clement Cleveland and Dr. Henry C. Coe, gynæcologists.

Change of Address.—Dr. G. W. Rachel, to No. 325 East Nineteenth Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 11 to May 17, 1890:*

Forwood, William H., Major and Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Snelling, Minnesota, and will report in person on the 27th instant to the Governor of the Soldier's Home, District of Columbia, for duty as Attending Surgeon at the Home. Par. 11, S. O. 113, A. G. O., Washington, D. C., May 14, 1890.

Cronkhite, Henry M., Major and Surgeon, is, by direction of the Secretary of War, relieved from station at Little Rock Barracks, Arkansas, and assigned to duty at Fort Lewis, Colorado, at which post he is now on temporary duty. Par. 10, S. O. 113, A. G. O., Washington, D. C., May 14, 1890.

Mason, Charles F., First Lieutenant and Assistant Surgeon, now on leave of absence, will, by direction of the Secretary of War, report in person to the commanding officer of Fort Logan, Colorado, for temporary duty at that station. Par. 7, S. O. 113, A. G. O., Washington, D. C., May 14, 1890.

By direction of the President, the Army Retiring Board convened at Fort Leavenworth, Kansas, by War Department order dated May 10, 1887, published in Special Orders No. 107, May 10, 1887, from Headquarters of the Army, is dissolved, and War Department order dated April 26, 1890, published in Special Orders No. 99, April 28, 1890, from Headquarters of the Army, directing Gardiner, John de B. W., Captain and Assistant Surgeon, to report to the president of the board for examination, is revoked. Par. 10, S. O. 111, A. G. O., Washington, D. C., May 12, 1890.

By direction of the President, and in accordance with Section 1246, Revised Statutes, an Army Retiring Board is appointed to meet at the War Department in this city, at 11 o'clock A. M., on Wednesday, May 14, 1890, for the examination of such officers as may be ordered before it. Detail for the Board: Heger, Anthony, Lieutenant-Colonel and Surgeon, Greenleaf, Charles R., Major and Surgeon. Par. 6, S. O. 110, A. G. O., Washington, D. C., May 10, 1890.

Byrne, Charles C., Lieutenant-Colonel and Surgeon, is, by direction of the Secretary of War, granted leave of absence for four months, with permission to go beyond sea, to take effect on or about June 1, 1890. Par. 3, S. O. 110, A. G. O., Washington, D. C., May 10, 1890.

Cherbonnier, Andrew V., Captain and Medical Storekeeper, is, by direction of the Secretary of War, granted leave of absence from June 1, to include October 10, 1890. Par. 4, S. O. 110, A. G. O., Washington, D. C., May 10, 1890.

Ewing, Charles B., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Washington Barracks, District of Columbia, and will report in person to the commanding general, Department of the Missouri, St. Louis, Mo., for duty as Attending Surgeon at those headquarters. Par. 8, S. O. 110, A. G. O., Washington, D. C., May 10, 1890.

Johnson, Henry, Captain and Medical Storekeeper, now on duty at the Medical Purveying Depot, New York city, will, by direction of the Secretary of War, take charge of that Depot, and perform the duties of Vollum, Edward P., Colonel and Surgeon, and Acting Assistant Medical Purveyor, during the absence of the latter. Par. 11, S. O. 109, A. G. O., Washington, D. C., May 9, 1890.

Vollum, Edward P., Colonel and Surgeon, and Acting Assistant Medical Purveyor, is, by direction of the Secretary of War, granted leave of absence for two months, to take effect June 1, 1890, with permission to go beyond sea. Par. 10, S. O. 109, A. G. O., Washington, D. C., May 9, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 17, 1890:*

Mackie, B. S., Surgeon. Ordered to the Practice-ship Constellation. May 15th.

Lowndes, C. H. T., Assistant Surgeon. Ordered to the Practice-ship Constellation. May 15th.

Fitzsimons, Paul, Surgeon. Detached from the U. S. Steamer Marion and ordered home.

Martin, H. M., Surgeon. Granted six months' leave of absence, to leave the United States.

Horwitz, P. J., Medical Director. Granted nine months' leave of absence, to leave the United States.

Wentworth, A. R., Passed Assistant Surgeon. Resignation accepted, to take effect November 14, 1890.

Herndon, C. G., Passed Assistant Surgeon. Detached from U. S. Steamer Enterprise and to wait orders.

Gihon, A. L., and Kindleberger, David, Medical Directors, appointed delegates to represent the Medical Department of the Navy at International Medical Congress, Berlin, Germany, August 4, 1890.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service from April 21 to May 10, 1890:*

Hutton, W. H. H., Surgeon. Detailed as chairman of Board for the Physical Examination of Officers of the Revenue-Marine Service. April 23, 1890. Detailed as chairman of Board for the Physical Examination of Cadets, Revenue-Marine Service. May 9, 1890.

Purviance, George, Surgeon. Detailed as recorder of Board for the Physical Examination of Officers of the Revenue-Marine Service. April 23, 1890.

Brooks, S. D., Passed Assistant Surgeon. When relieved at Savannah, Ga., to proceed to Cleveland, Ohio, and assume command of the Service. May 1, 1890.

Carrington, P. M., Passed Assistant Surgeon. As soon as physically able, to proceed to Savannah, Ga., and assume command of the Service. May 1, 1890. Leave of absence extended twenty days on account of sickness. May 3, 1890.

Magruder, G. M., Assistant Surgeon. Detailed as recorder of Board for the Physical Examination of Cadets, Revenue-Marine Service. May 9, 1890.

Kinyoun, J. J., Assistant Surgeon. To proceed to Wilmington, Del., on special duty. May 6, 1890.

Condict, A. W., Assistant Surgeon. Granted leave of absence for eight days. April 12 and 22, 1890.

Society Meetings for the Coming Week:

Monday, *May 26th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *May 27th:* Medical Society of the State of North Carolina (first day—Oxford); New York Dermatological Society (private); New York Academy of Medicine (Section in Laryngology and Rhinology); Buffalo Obstetrical Society (private); Medical Societies of the Counties of Queens (annual—Mineola) and Rockland (annual), N. Y.; Boston Society of Medical Sciences (private)

Wednesday, *May 28th:* Connecticut Medical Society (first day—New Haven); Medical Society of the State of North Carolina (second day); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany and Monroe (annual—Rochester), N. Y.; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

Thursday, *May 29th:* Connecticut Medical Society (second day); Medical Society of the State of North Carolina (third day).

Friday, *May 30th:* Connecticut Medical Society (third day).

Obituaries.

WILLIAM H. BYFORD, M. D.

Press dispatches announce that Dr. Byford died on Wednesday, the 21st inst., at his home in Chicago, at the age of seventy-three. Professor Byford was a native of Ohio, where he received his undergraduate education, taking his medical degree from the Ohio Medical College in 1844. The greater portion of his professional career was spent in Chicago, where he soon became professor of obstetrics in the Rush Medical College and won wide repute as a practitioner and as a teacher. He subsequently became professor of gynæcology in the Rush Medical College and of obstetrics in the Woman's Medical College of Chicago and surgeon to the Woman's Hospital of Chicago. He was one of the founders of the American Gynæcological Society, and was its president in 1881. He was the author of a treatise entitled The Practice of Medicine and Surgery applied to the Diseases and Accidents Incident to Women, a book that has gone through four editions and has always been highly esteemed by the profession. As a physician and as a teacher Professor Byford was conservative and painstaking; as a man he was tender and true, and no man in the country was more worthy of the status accorded him by his fellow-physicians.

OBITUARY NOTES.

Howard Trask, M. D., a nephew of the late Dr. James D. Trask, of Astoria, died on Monday, the 19th inst., at the Hospital for the Ruptured and Crippled, from pulmonary disease complicated with an affection of the hip. Dr. Trask was a graduate of the Rush Medical College, of Chicago, and was a member of the house staff of Charity Hospital, New York, last year, when failing health compelled him to retire from the work.

Wales L. Cary, M. D., of Brooklyn, died, after a brief illness, on May 16th, in his thirtieth year. He was a man of high natural ability and full of energy and professional spirit. He was an assistant surgeon at the Brooklyn Eye and Ear Hospital, and a charter member of the staff of the new Infirmary for Diseases of the Throat and Lungs, in the Eastern District. Dr. Cary was an alumnus of the Long Island College Hospital, of the Class of 1884, and he was an ex-interne of that institution. He was secretary and treasurer of the Alumni Association of the collegiate department.

Letters to the Editor.

THE PAYMENT OF TRAINING-SCHOOL PUPILS.

32 East Thirty-first Street, New York, *May 19, 1890.*

To the Editor of the New York Medical Journal:

Sir: The opinions of Mr. George P. Ludlam in any matter connected with hospital management command attention, as coming from one whose practical experience is great. It is therefore well to answer his letter published in the Journal of May 17th.

Mr. Ludlam makes the serious mistake of confounding the *chief aim of a school* with the chief aims of its scholars. These have nothing in common. The aim of a school may be high, while its scholars may enter it with the highest or lowest motives, and *vice versa.* Incidentally it is well to point out that the phrases "chief aim of a school" and "reason for its existence" have no real connection with one another. The reason for the existence of a training school, as for any other institution, is simply to supply a human want. The "chief aim" of the school is determined by the ideas of those who found and manage it. This aim may be, if the highest view of the matter be taken, really to alleviate human suffering by educating thoroughly those who, from whatever motives, wish to become nurses. Or it may be, as Mr. Ludlam seems to think, to alleviate the sufferings of a small number of young people of the female sex (and especially those who, having "been brought up in refinement and even luxury, are compelled to face the necessity of earning a support") by teaching them a trade. The chief aim might be to make money or it might be almost anything else. Whatever be the aim, the school necessarily trains nurses, and the matter under discussion is simply the question of payment.

The writer of the editorial and his critic are evidently in accord in regard to the fact that nursing and medicine are to be regarded in the same light as means of livelihood. A perusal of both articles shows this beyond a doubt. Indeed, the first places both these on a plane with plumbing in this respect. The point of difference is simply that the former does not regard training schools as charitable institutions, while the latter does so regard them. The writer of the editorial regards them as schools for educating nurses. Mr. Ludlam looks at them as places in which the main object is, first, to provide a means of employment for certain worthy young women, and, incidentally presumably, to make these into nurses. The writer takes the position that supply and demand alone should influence the schools in the matter of payment. Mr. Ludlam would pay all scholars, because some might need the money. Even so, why pay those who do not? Even the sentimental ideas expressed by your correspondent can hardly justify payment to those who have means.

Evidently by mistake, Mr. Ludlam gives an entirely incorrect impression when he says "small and even contemptible and degrading as the payment seems to the writer of the article," etc. The writer does not anywhere object to the payment because it is "small," but because it is a payment not made for services rendered. It is degrading because all gifts of money are degrading. This statement is not absolutely fair, since money may be given and received in a spirit which does not in the least degrade, but rather elevates the moral tone of both giver and receiver. Any one in need of money for support may receive it as a gift without loss of dignity, provided he intends to try to repay it, not necessarily in money and not necessarily to the donor, not in kind perhaps, but in kindness to other unfortunates. No one who is not in need can receive money as a gift without loss of self-respect, and the money paid to those training-school pupils who do not need it is worse than wasted; it is harmful and lowers the dignity of the profession.

Your correspondent mentions the payment by the Government to pupils at West Point and Annapolis. The Government needs officers specially trained for the army and navy. It pays them while educating them, and requires their services for a certain time after this education is completed. During this time it has absolute control over them as completely as though they were slaves. A training school does not educate pupils for its own benefit and service. There is therefore no resemblance whatever between it and the Government.

The reason for the existence of training schools is that they are needed by the community because nurses are needed by it.

The chief aim of the schools may differ considerably according to the provisions of their charters or the ideas of their managers, but, nevertheless, the education of nurses for the sick is the actual business of all training schools. There is no excuse for wasting money, no matter what views the managers may hold, unless these managers possess funds expressly given or bequeathed to be wasted.

Money paid to any one not in need, save for services rendered or other adequate return, is wasted. In the case of a training school, without special authority expressed in the charter or in some form of bequest, it is a breach of trust to pay pupils if they can be had without payment.

Here let me draw attention to a point of some importance not touched upon in either article. The "chief aim" of the managers of training schools like that attached to, but not connected with, Bellevue Hospital may be considered as affecting only the school, not the hospital. The latter merely gets its nurses from the school by contract, and has no more to do with the motives of its managers than the latter have to do with the motives of its pupils. When, however, a training school is an integral part of a hospital, and is supported directly by the general funds of such hospital, its managers have no right to any other aim than this: to provide good nurses as cheaply as possible for that hospital. If as good nurses can be had more cheaply without a training school, they must get them. If as good nurses can not be provided in any other way (and I do not believe they can), a school must be started and enough money spent to make it efficient. It still remains a duty, however, to spend as little as possible.

The manager of a hospital must look to its interests, and not be influenced by a desire to help any young woman or old man, however worthy. If he spends the hospital's money to educate some one, unless the hospital charter expressly authorizes him, he is guilty of a breach of trust. A training school may be incorporated to help its scholars; a hospital is intended to benefit the sick. No sentimental idea should for a moment justify the expenditure of one cent of its money for any other purpose.

If, as Mr. Ludlam thinks, the quality of pupils would deteriorate unless they were paid, perhaps the payment must be made. The large number of applicants and the small number of cases makes this very doubtful. The fact that in England the pupils more often *pay* than receive pay for their instruction is additional evidence against the idea. The burden of proof, in any case, lies with those who make the assertion.

The abolition of the pay system does not in the least prevent the foundation of scholarships open to worthy and poor applicants. Neither would the acceptance of money by any earnest and capable but poor pupil be in the least improper.

It will be understood, I hope, that this letter is written in no spirit of discourtesy to Mr. Ludlam, with whom my relations have been most pleasant. It is necessary to speak plainly, and if the words are severe, they apply only to the letter, not to its author.

J. West Roosevelt, M. D.

HYDROGEN PEROXIDE IN DIPHTHERIA.

New York, *April 29, 1890.*

To the Editor of the New York Medical Journal:

Sir: The communication of Dr. Elder, in the Journal of the 19th, on this subject has so impressed me on the score of his enthusiastic praise, and tallies so well with a personal experience in the same direction, that I take the liberty of offering a suggestion, first with reference to the solution itself, and then as to the best mode of its employment. Your correspondent refers to a ten-volume strength as the officinal preparation in the market, which should be known to be not ten- but fifteen-volume. If possible, it would be even more acceptable if we were able to procure a solution higher in point of saturation, both on account of its intrinsic efficacy as well as to make allowance for an escape of its ozonized properties after exposure. As its action is perfectly harmless to the mucous membranes, at most producing but a slight degree of smarting in its present undiluted strength, it seems desirable to avail ourselves of a free and full chemical action on the local necrotic elements of the disease. I find in the published statements regarding the medicinal use of the peroxide that certain proportionate amounts of water should be added, but, in my experience, to do so is to rob it of its peculiar virtue. It should, then, be of full strength, and, so far as possible, fresh from the manufacturer.

In its employment I hold to the point also, as one of particular importance, that it should be used in the shape of a coarse spray, and not brought in contact with the diphtheritic surface by means of a swab or cotton applicator. It is less distressing to the patient and finds its way more distinctly over the entire surfaces involved; but eminently without disturbing the mucous membrane, and, as a consequence, offering the best opportunity, as your correspondent discovers, for renewed infection. An additional element of the spray under twenty or twenty-five pounds pressure is the double advantage of clearing away the superficial coagulated masses that form almost immediately on contact with the peroxide and exposing a deeper structure to its action.

G. B. HOPE, M. D.

INJURIES OF THE ANKLE JOINT.

435 WYOMING AVENUE, SCRANTON, PA., *April 27, 1890.*

To the Editor of the New York Medical Journal:

DEAR SIR: Permit me further space in the columns of your valuable journal to correct any impression that might lead your readers to infer that my article in your issue of April 26th was calculated to in any way contribute to a notion that American surgeons were at all backward in the recommendation of conservative treatment of the ankle joint or fracture of the astragalus; for such is not the case. In fact, from the days of Dr. J. Rhea Barton down to the present time American surgeons have generally advised an attempt to be made at saving the foot in this class of injuries. Professor D. Hayes Agnew and Professor John Ashhurst, Jr., of Philadelphia, Professor Dennis and Dr. Charles Phelps, of New York, Dr. Moore, of Rochester, and others all advise conservatism in the treatment of these and of all other compound fractures where there is any possible hope.

RICHARD H. GIBBONS, M. D.

Proceedings of Societies.

AMERICAN MEDICAL ASSOCIATION.

Forty-first Annual Meeting, held in Nashville, Tennessee, Tuesday, Wednesday, Thursday, and Friday, May 20, 21, 22, and 23, 1890.

The President, DR. E. M. MOORE, of Rochester, N. Y., in the Chair.

THE meeting was called to order by Dr. W. T. BRIGGS, of Nashville, and a prayer was made by the Rev. Dr. WITHERSPOON.

Addresses of Welcome.—Dr. BRIGGS recounted the changes that had taken place during the third of a century that had elapsed since the association first met in Nashville, and referred to the strain of the late civil war and to the thoroughness of the reconciliation that had followed.

On behalf of the Governor, MAJOR CRAIGHEAD welcomed the association for the State, and MAYOR MCCARVER on the part of the city.

The President's Address.—The PRESIDENT took for the subject of his address Hygiene and its Relation to the Government. What had been the progress of opinion on this subject? Could we feel that it had received the attention that it deserved? We were here to-day because we were therapeutists, and not because we were hygienists. We should not be discouraged; great movements were slow. The speaker then reviewed the history of hygienic legislation from the time of the passage of the first act, on February 26, 1796, to May 26, 1866, when, by a joint resolution of Congress, the Secretary of the Treasury was charged with the regulation of quarantine. In 1878 another advance was made whereby the Surgeon-General of the Marine-Hospital Service was empowered to make rules for the consuls in foreign ports with reference to the condition of vessels and cargoes bound for ports in the United States. During the same year still further advances were made by the appropriation of money to defray the expenses incurred in the investigation of the origin and causes of epidemic diseases, and by the establishing of State boards of health. A natural outcome of State boards was the National Board, the development and growth of which the speaker then traced to the time when it was established, in 1879.

The National Board of Health, he said, had a splendid record. Brought into being by the presence of an overwhelming calamity, it had achieved a success that was the most remarkable in the history of hygiene in converting Memphis from a pest-house into a healthy and flourishing city. The Marine-Hospital Service, founded in 1798, was, he said, the most active and prominent among the functionaries of health under the direct rules of the National Government. One could not become familiar with its works without having a strong feeling of admiration for the care with which the service was administered. The management of the late epidemic of yellow fever was proof of the efficiency and value of this service. There was still another field of sanitary action—that of the consideration of animal diseases. In 1884 the Bureau of Animal Industry had been organized for the study of the contagious diseases of cattle, and placed under the control of the Commissioner of Agriculture, who had been successful in arresting the spread of pleuro-pneumonia. The best results had been obtained by coöperation with State authorities. The speaker then reviewed the work of this branch of the Government. The Government had shown willingness to advance in the great march of hygiene, but did not take the initiative. To illustrate this, he cited the investigations of Sternberg and Freire and the proceedings of the international conference. Taking up the question of the regulation of commerce, he asked if a national board of health would meet the requirements indicated in the exclusion of epidemics from our borders, their passage from State to State, the hygiene of cars, the drainage of swamps in malarial districts, the prevention of adulteration of food, and various other matters which would come within its province. The work would be too great for such a body. The Secretary of the Treasury was now obliged to make regulations through the Marine-Hospital Service, which had no natural relation to the object for which the service was created. The service had its own labors; and the army, the navy, and the Bureau of Animal Industry had theirs. These disconnected departments should be consolidated, and the solution of the question, he thought, must be found by the appointment by the Government of a single man who would give his undivided attention to this great subject. That man need not be a medical man, but he should be to his functionaries what the Secretary of War was to his. The control of all the bureaus of investigation should be under one head. The time had come when a health minister should be appointed. After the Government had consolidated these bureaus of investigation and hygiene, it would be found that, of all the men chosen by our Chief Magistrate to aid him in carrying on the functions of the Government, the secretary of sanitation would have the most arduous labors to perform.

On motion of Dr. BRODIE, of Detroit, a vote of thanks was passed for the president's address, and it was referred to the Committee on Publication.

The Section in Neurology and Medical Jurisprudence.—By resolution, the title of the Section in Medical Jurisprudence was changed to that of Section in Neurology and Medical Jurisprudence.

The Address in Medicine was delivered by Dr. N. S. Davis, of Chicago. He spoke of the unparalleled activity in the application of chemistry and microscopy to biological, bacteriological, ætiological, pathological, sanitary, and therapeutic investigations during the last two decades. He considered it safer in low forms of fevers to relieve excess of heat by increasing natural processes than by the use of antipyretics and analgesics, which endangered increased blood and tissue degeneration and depressed the nervous force. He discussed alcohol as a medicine and considered the following conclusions justified: 1. Alcohol present in the blood combined with or caused changes in the molecular composition of the hæmoglobin by which the natural conversion of the latter into oxyhæmoglobin was diminished and less oxygen was carried from the pulmonary to the systemic circulation. 2. The same strong affinity of alcohol for water and albuminoids that enabled it to modify the composition and function of hæmoglobin also caused a modification of the molecular condition and function of tissue cells throughout the body, and retarded the aggregate of metabolic changes and products, as was shown by the diminished production of carbon dioxide, urea, heat, etc. 3. The direct effect of alcohol on the nerve-cells and its indirect effect in lessening the amount of oxygenation of the blood caused it to produce marked diminution of nervous sensibility and vaso-motor nerve force. In other words, it had a true anæsthetic effect on the nerve centers. It followed from these propositions that alcohol in the blood diminished every form of force or energy, instead of conserving tissues; diminished instead of preventing metabolic changes, and thereby promoted molecular and tissue degeneration, as was seen in the results of chronic alcoholism. To reach the highest degree of success in the treatment of acute and chronic diseases, patients must be early separated from the further action of specific and predisposing causes, and surrounded with pure air and perfect sanitary arrangements. Remedies that directly or indirectly retarded or prevented normal metabolic processes must be carefully avoided. As pyrexia resulted mostly from interference with the processes of heat dissipation, these processes must be restored by promoting natural elimination and by the direct abstraction of heat by sponge bath and in severe cases wrapping in wet sheets. Remedies that palliated or modified local developments and thus prevented structural changes which might be fatal must be used early and accurately. It should be remembered that the same remedial agent that might be valuable in the first stage might prove injurious if used at the stage of culmination, or more so if used in the stage of decline. The chief benefits of antipyretics and germicides thus far had been as preventives in the incubative or prodromal stage rather than as curatives after the establishment of morbid processes. The speaker had not found in the medical literature of the past few years that antipyretics had lessened the ratio of mortality or shortened the duration of continued fevers.

The Rush Monument Committee reported that it had on hand the sum of $1,195.69.

The Journal of the Association.—It was announced that the journal's circulation was 5,100, and its income for the current year $14,154.91.

Dr. E. G. Comegys, of Cincinnati, offered a resolution that the president appoint a committee of one from each State to consider the management of the journal, increase its usefulness, enlarge its volume, increase its circulation, and make it the pride and boast of the Association.

Dr. Carl Seiler, of Philadelphia, seconded the resolution, and criticised the action of the board of trustees for publishing some articles so late and some so early. He would like to know who was the responsible party.

Dr. J. V. Shoemaker, of Philadelphia, spoke in favor of the present board of trustees.

Dr. N. S. Davis explained the conduct of the journal and the delay in publishing papers.

The resolution was laid on the table.

Report of the Committee on Nominations.—Dr. E. Grissom, of North Carolina, the chairman, reported as follows: For president, Dr. W. T. Briggs, of Tennessee; for first vice-president, Dr. C. A. Lindley, of Connecticut; for second vice-president, Dr. R. C. Moore, of North Carolina; for third vice-president, Dr. Hal C. Wyman, of Michigan; for fourth vice-president, Dr. L. P. Gibson, of Arkansas; for treasurer, Dr. R. J. Dunglison, of Pennsylvania; for permanent secretary, Dr. W. B. Atkinson, of Pennsylvania; for librarian, Dr. C. L. Richards, of the District of Columbia; for trustees of the Journal, Dr. J. B. Hamilton, of the District of Columbia, Dr. J. V. Shoemaker, of Pennsylvania, and Dr. D. E. Nelson, of Tennessee; for members of the Judicial Council, Dr. X. C. Scott, of Ohio, Dr. W. F. Peck, of Iowa, Dr. J. Lane, of Kansas, Dr. J. H. Murphy, of Minnesota, Dr. D. J. Roberts, of Tennessee, and Dr. A. Garcelon, of Maine; for members of the Committee on State Medicine and Necrology, each, one member from each State; to deliver the annual addresses: Medicine, Dr. E. L. Shirly, of Michigan; surgery, Dr. J. M. Matthews, of Kentucky; State medicine, Dr. W. L. Shank, of Kansas.

The Next Meeting.—The committee reported in favor of San Francisco, but, after a discussion in which Omaha was urged, it was voted to hold the meeting in Washington, beginning on the second Tuesday in May, 1891.

The Address in Surgery was given by Dr. Samuel Logan, of Louisiana. More progress, he said, had been made in medicine during the past fifty years than in all time before. Since medicine had cut loose from the apron-strings of priesthood and witchcraft it had been leaving the field of theory and dealing only in facts. Our periodical medical literature was the best of any profession. What could we do without the aid it afforded? The speaker then discussed the subject of anæsthetics. Recent investigations had proved that chloroform stopped the respiration before the action of the heart. The dorsal posture should be adopted, with no pressure from tight clothes; there should be thorough dilution of the vapor with air, and a napkin was best for its administration, which should be gradual at first. If the patient held his breath, the first inspiration should be of fresh air. Insensibility of the eyeball should be taken as a test of complete anæsthesia. No operation should be begun until it was present. If the breathing ceased, the lower jaw should be pressed forward. A hypodermic injection of morphine ten or fifteen minutes before the administration of the anæsthetic was approved of, except in cases of idiosyncrasy. The speaker referred to cleanliness as the sum and substance of antisepsis. Attention was drawn to the subject of micro-organisms in finger-nail dirt. Kinyoun had found them in twenty-five out of twenty-seven nurses. The speaker then discussed the conservative reaction during the past year concerning brain surgery and surgical interference in diseases affecting the spinal cord. Therapeutic laparotomy had "come to stay," though its field might be limited. Prophylactic laparotomy was growing in favor in relapsing peritonitis and inflammation of the vermiform appendix. Removal of the appendix should be reserved for cases in which frequent recurrences and their increasing gravity demanded operation. Specialists should never forget that we must work together in one brotherhood. He who remained ignorant of advances in one line must fall in the rear. Advances in one quarter must be known all along the line.

The Address in Dietetics was given by Dr. H. C. Wood, who questioned the statement of fifty years ago that the white race in America was tending toward extinction, yet there was doubtless a degree of weakness in the race. Ill-health, premature loss of the teeth, defective weight, and smallness of the lower jaws among Americans, etc., were largely attributable to errors in eating. Americans would not chew their food if they could avoid it. The teeth were crowded, and could not grow if they were supplied with blood insufficiently. The American's dyspepsia began in the mouth, increased in the stomach, and reached its acme in the intestine.

The Address in State Medicine was given by Dr. A. L. Carroll, of New York.

NEW YORK SURGICAL SOCIETY.

Meeting of March 26, 1890.

The President, Dr. C. K. Briddon, in the Chair.

Tubercular Arthritis of the Shoulder and Tuberculous Testes.—Dr. Syms presented a middle-aged man who, with no history of rheumatism or venereal trouble, had ankylosis of the shoulder joint and marked atrophy of the regional muscles. The patient was also suffering from what appeared to be tuberculosis of the testes.

Dr. McBurney thought that the outlook in such a case was extremely discouraging in consideration of the condition of the testes. The only treatment for the arm would be by operative interference.

Flat-foot.—In the postponed discussion on Dr. Willy Meyer's supramalleolar operation for flat-foot, Dr. McBurney said he had been extremely interested in the cases submitted and struck by the relief afforded, but he could not appreciate the principle upon which the operation was done. He did not know whether the author of the paper had shown in what way the transposition of the lower bones of the leg could affect the condition of flat-foot except by forcing the patient to walk on the outer border of the foot, which had not been used and was still intact. He thought the patients had not been operated upon long enough to demonstrate that the condition which had characterized the inner side would not be reproduced on the outer. Though the present result was most excellent, there seemed no sound reason for assuming that it would be permanent.

Dr. Abbe thought the principle underlying the operation was the correct one, throwing, as it must, the weight of the body, through the axis of the leg, directly upon the outer part of the plantar surface of the foot. In cases where he had had to effect this it had been accomplished by building up the inner side of the sole of the shoe, after Bernard Roth's method, better than by the operative procedure. The cases shown had demonstrated a considerable and, to some extent, unsightly deformity. There was nothing unsurgical about this, however, if the operation brought about the desired benefit. Perhaps less correction might be possible with the maximum of benefit.

Dr. Van Arsdale said that the element of time played an important part in deciding the value of measures of relief in flat-foot. If it could be shown that Dr. Meyer's operation gave good results, then the fact that only six weeks was required to effect the cure by this means made it an operation to be selected on that account. Certainly the time was much less than by any other method devised with which the speaker was acquainted.

Dr. Meyer said that, so far as he had been able to understand the cause of the pain and trouble in patients with flat-foot, it was that the weight of the body, after transmission through the axes of the legs, passed through the scaphoid, instead of through the cuboid bones. Every surgeon was familiar with what took place in cases of traumatic flat-foot. As soon as the patients were obliged, by an enforced position, to walk on the outer side of the foot they no longer suffered pain. He failed to see why any recurrence was likely to take place. A slight traumatic talipes varus might even ensue if, some over-correction having been made, the feet were used too soon or if the bones were weak. If the patients were obliged to walk on the outer border of their feet, he did not see how the inner border could sink again to the floor. He would not be understood as advocating that all patients should be treated by operation. Other means should have fair trial. Among the poorer classes, however, the short time required to restore to them the ability to resume their work with comfort after this operation was certainly a great point in its favor. It was important, in case of any over-correction at the time of operation, to make a final adjustment and insure the most perfect position within twelve days from the date of the operation.

Recurrent Appendicitis; Removal during the Period of Quiescence.—Dr. Murray read a paper on this subject. (See page 564.)

Dr. Markoe said that he had the matter under consideration, and had adopted views which were not quite so sanguine as those of some of his friends. He had been unable to reach any positive conclusions, however, but was ready to accept deductions based on accumulations of facts.

Dr. McBurney said he had seen a number of cases during the last six months which did not, in his opinion, justify the surgeon in urging operation, although the symptoms had been sufficiently characteristic to show that the patients were suffering from a catarrhal condition of the appendix. In these cases there was the history of previous attacks of a mild form with intervening periods of perfect health. During the attacks the rise of temperature had been insignificant. In such cases as these he should hardly like to urge an operation, either during the attacks or in the intervals between them. It was difficult to define the kind of case which, after recurring more than once or twice, justified the surgeon in advising an operation. Many of the patients so affected got well and remained so. On the other hand, it was a mistake to consider those emergencies which immediately threatened life as the only conditions which demanded operative interference. There were many cases in which the existence of the patients was rendered miserable and demoralized by the repeated return of a dangerous illness, and in such cases he deemed it justifiable to advocate an operation as a reasonable chance of relief. As to the question of mortality, he thought that statistics would show favorably in support of the procedure. Operations for stricture and other formidable operations for causes which did not threaten life might be followed by fatal results. So far, the mortality following the appendicitis cases operated upon was not such as to deter the surgeon from performing the operation where the possibility of its utility was clearly indicated. He thought he should operate in cases of recurring appendicitis in the quiescent interval if he had satisfied himself that the attacks had been of a threatening character and the indications were of future aggravation of those symptoms, or where the patient's general condition was so uncomfortable and demoralized that operation appeared the only source of relief. The possibility of a fatal issue in the hands of a careful and competent surgeon could hardly with fairness be urged unless it could be shown that there were special dangers peculiar to this operation.

Dr. Weir said that, though he recognized that many of these cases had progressed so favorably and that the operation had changed for the better the condition of the patients, and that the mortality had been extremely small, still he felt that there were considerations connected with the question which he could not yet entirely indorse or accept. He fully agreed that recurrences which were of such frequency as to render the patient incapable of pursuing his ordinary occupation warranted a certain amount of risk. Still the risk was not inconsiderable, for laparotomy for any cause carried with it a decided amount of danger. Previous attacks of marked severity did not necessarily predispose to subsequent attacks of equal or greater severity. As to laparotomy in the quiescent stage, he had known of some eight cases of its recent performance in New York, in nearly every one of which there had been entire absence of adhesions, the appendix itself having been found perfectly smooth, showing that the previous attack had not developed any peritonitis. This fact explained quite clearly the nature of the cases that came again and again without serious results into the hands of the general practitioner. They were cases of a lesser degree of inflammation and severity. When he put these data together with the experience gained from fourteen cases of his own in which he had performed extirpation of the appendix and had found in only one out of three perforation from distension by a contained fluid, all the others having been perforated from a contained fæcal concretion, he was much impressed with the fact that the appendix was the subject of at least two forms of inflammation. The milder condition gave rise perhaps to frequent and painful attacks or incommoded the patient, but did not necessarily bring about great risks to life. Whether an appendix simply inflamed gave rise to an abscess or to a general suppurative peritonitis, except under conditions of distension that ought to be detected in an examination, he could not say at present, but the knowledge of the existence of this milder form would lead him to considerable hesitation in advocating laparotomy in the quiescent stage of appendicitis. He did not wish to be understood as arguing against an operative procedure, but rather as urging that it was well not to rush into it too hastily. He thought that the course followed by the writer of the paper had been fully justified by the history of the case; still there was much to learn in the matter of these inflammations which occurred without perforation of the appendix.

Dr. Abbe thought that there was an analogy between the indications for operation in appendicitis and in troublesome hernia, and that in the hands of a careful surgeon no greater risk was involved to the patient in the one than in the other. An appendicitis that was associated with tumefaction and with recurrent pain always, in his opinion, called for interference. The same argument did not hold good, however, in milder cases of a catarrhal form, even with the presence of a foreign substance, unless the patient was prevented from following some pursuit necessary to his support. Autopsies showed many appendices with evidences of inflammatory processes and the presence of foreign bodies in them which, so far as indications went, had never given rise to any serious symptoms. While he disliked any operation about the abdomen calculated to weaken the recti muscles, he did not consider that operative interference for the removal of a diseased appendix was fraught with any more danger than an operation for hernia.

Dr. McBurney said that the absence of tumefaction, even in acute cases, was of no particular diagnostic value. Even if its presence could not be made out, a considerable amount of disease might be found on opening the abdomen.

Dr. Wyeth indorsed the position taken by Dr. McBurney as to the class of cases which justified operation, emphasizing those cases in which there was a history of three or four attacks with progressive severity in the symptoms. He had been about to operate in a case which belonged to this type. The patient was a young man giving a history of sixteen attacks within two years. He was bodily demoralized and clamoring for something to be done. The arrangements had been made for operation some two weeks ago, but a characteristic attack had occurred on the day before that set for the operation. Tumefaction was evident, but probably entirely muscular. The attack had lasted a week, the temperature rising as high as 103°. He had delayed the operation because it was more dangerous to operate when there was acute local peritonitis than in the interval between the attacks, and because the patient had safely weathered sixteen attacks. He felt assured that adhesions had formed sufficient to shut the appendix off from the general peritoneal cavity, thus lessening the danger of an abscess opening into the peritonæum.

Dr. Murray thought that what was needed was the ability to make a more accurate diagnosis before a correct estimate could be made of the dangers of appendicitis. The fact that in the statistics offered so many of the patients had been women bore directly on the question of diagnosis. Many of the attacks in the ovarian region might have been due to appendicitis. He thought that during the next five years it would be demonstrated how dangerous a disease appendicitis really was, and that surgeons would feel justified in removing the organ which caused the trouble.

Nephrectomy following an Operation for Perinephritic Abscess; Multiple Renal Abscesses; Renal Calculi on both Sides; Double Ureter; Death.—The President then reported the following case: Martin M., aged fifteen, admitted to the Presbyterian Hospital August 9, 1889. Family history of no interest; no previous morbid personal history. His present illness had begun three weeks before, with paroxysmal attacks of abdominal pain, especially referred to the left side, and occasionally "shooting" pains down the right thigh. Headache, prostration, nausea, and vomiting were added to his symptoms. He could assign no cause for his trouble. There was no history of traumatism or exposure to cold. On admission, he was a pale, rather poorly nourished, undergrown boy. The urine contained three per cent. of albumin, pus, and amorphous phosphates; specific gravity, 1·011; temperature, 101°. As he lay in bed, the pelvis was tilted to an angle of 30° with the plane of the recumbent body. The left thigh was flexed and rotated inward. There were pain and tenderness in the left inguinal region. He was put on milk diet, and poultices were applied to the painful area of the inguinal region. There was apparent improvement up to August 27th, when an examination revealed an area of dullness and induration in the left inguinal region. An operation was considered to be indicated, and the patient was put on the usual preliminary treatment.

August 28th.—Operation, 3.30 p. m., Dr. McCosh present; ether narcosis. An exploratory puncture was made with a hypodermic needle a little above the anterior superior iliac spine in the left groin, and pus was withdrawn. The abscess cavity was cut down upon and ten ounces of foul, stinking pus were removed. The cavity was irrigated and explored and found to lead up to the kidney. The wound was dressed with an antiseptic absorbent dressing. The temperature the next morning was normal, and the patient was quite comfortable. He gradually grew worse, the temperature ranging from 100° to 103·2°. A week after the operation the urine was turbid, of a dirty yellow color, acid, of the specific gravity of 1·020, very fœtid and highly coagulable, and contained a considerable sediment of pus and mucus. The tongue was covered with a whitish fur; appetite poor. The functions were fairly well performed. Pain in the left lumbar region became quite severe at times, of a dragging character, shooting down the thigh of that side, and occasionally was felt in the hypogastrium.

October 4th.—A consultation was held and the unanimous opinion was that an exploratory operation was urgently called for.

5th.—Operation at 3 p. m. by Dr. Briddon; ether narcosis. The sinus over the left crest was examined with the finger and appeared to pass up to the region immediately in front of the kidney; it was thoroughly cleansed with a sharp spoon, irrigated with Thiersch's solution, and packed with iodoform gauze temporarily. The patient was then placed prone, with a sandbag under his abdomen and the lower extremities pendent over the end of the table. This latter procedure, tilting the pelvis and flexing the dorso-lumbar spine, elongated the vertical diameter of the ilio-costal space in a marked manner. An incision was then made, four inches long, along the outer border of the erector spinæ, and the dissection was continued until the kidney was exposed. There was no difficulty in isolating it from the surrounding structures, except in front, and, while effecting a separation in this region, the finger apparently passed through the soft tissues of the anterior surface of the organ into a cavity, from which a quantity of very light-colored, inodorous pus welled up into the wound. Although up to this time the operation had occupied but a short period, the boy's condition was bad, the flagging state of his pulse demanding repeated stimulation, and the indication was to conclude the operation as speedily as possible. The pedicle was transfixed with a Thiersch's needle carrying a double silk ligature, which was tied securely on either side, after which the kidney was severed by a few strokes of the knife. An examination of the excised organ revealed multiple abscesses varying from an eighth to half an inch in diameter, confined chiefly to the cortical portion. A communication was then made between the sinus in front and the wound in the loin, through which a fenestrated drainage-tube was passed. Very little blood was lost during the operation. A light tamponade of iodoform gauze was placed in the wound, and a firm antiseptic absorbent dressing was applied. The patient was stimulated and put to bed.

September 6th.—The patient came out of the anæsthesia in fair condition; temperature normal; pulse 140.

8th.—Temperature 99; complains of a great deal of pain in his side; a hectic flush is observed in his cheeks; passes nineteen ounces of urine in the twenty-four hours.

15th.—Temperature elevated; was given an enema yesterday, which escaped through the nephrectomy wound, thus establishing the existence of a stercoral fistula. He is becoming more and more emaciated; countenance pale; expression anxious; skin dry; urine contains a large quantity of pus and hyaline and granular casts.

20th.—The pedicle of the kidney is in a sloughing condition, and there is a profuse discharge of pus and fæces from the wound. The latter seems to come from above in the situation of the descending colon. Pulmonary changes are revealed on examination of the chest. Has cough and difficult expectoration.

November 23d.—Patient has been gradually growing weaker. A week ago he had coma and clonic convulsions. Convulsions, alternating with coma, have continued throughout the week, sometimes as many as three occurring in a day. Pulse scarcely perceptible at the wrist for the last twenty-four hours.

23d.—Death.

Autopsy.—Numerous abscesses found scattered throughout the whole of the right lung. The wound in the iliac region does not communicate with the peritoneal cavity, neither does the lumbar wound, but the former communicates with the lumen of the descending colon by two small fistulæ. The right ureter is double, one portion containing a calculus which extends down into it from the pelvis of the kidney.

Right Kidney.—Capsule not adherent, surface smooth, some congestion of the vessels. On section, the cortex is found thickened, pale, and opaque, and the markings indistinct.

Brain.—A large amount of white, creamy pus is found over the anterior half of the convexity of the left hemisphere.

Chronic Dilatation of the Bladder.—Dr. Wyeth narrated a case which had lately come under his observation. A young man of twenty-six years of age had come to him for treatment of what seemed well-marked chronic cystitis. The urine contained some albumin and pus, but no casts or anything indicating renal disease. He had suffered great pain. Exploration of the bladder was made by suprapubic cystotomy.

On introducing the index-finger into this organ, it was noticed that, although there was a free opening, about five ounces of Thiersch's solution, which had been injected *per urethram*, remained in the bladder. The walls were as smooth to the touch as the inside of ordinary glazed crockery. There was slight thickening of the mucous membrane about the neck, but no general cystitis. The patient dated the present trouble from prolonged overdistension of the bladder while at a ball, where he went an entire night without passing his water. The bladder gradually contracted down under the free drainage, which was maintained for eight weeks, when the wound closed and the patient was discharged seemingly cured.

Book Notices.

The National Medical Dictionary: including English, French, German, Italian, and Latin Technical Terms used in Medicine and the Collateral Sciences, and a Series of Tables of Useful Data. By John S. Billings, A. M., M. D., LL. D. Edin. and Harv., D. C. L. Oxon., etc., with the Collaboration of W. O. Atwater, M. D., Frank Baker, M. D., S. M. Burnett, M. D., W. T. Councilman, M. D., James M. Flint, M. D., J. A. Kidder, M. D., William Lee, M. D., R. Lorini, M. D., Washington Matthews, M. D., C. S. Minot, M. D., H. C. Yarrow, M. D. Philadelphia: Lea Brothers & Co., 1890. Two volumes, pp. xlvi—731—799.

Dictionnaire abrégé des sciences médicales. Par le Dr. L. Thomas, sous-bibliothécaire à la Faculté de médecine de Paris. Paris: Lecrosnier et Babé, 1889. Pp. xiii–647.

A New Medical Dictionary; including all the Words and Phrases used in Medicine, with their Proper Pronunciation and Definitions, based on Recent Medical Literature. By George M. Gould, B. A., M. D., Ophthalmic Surgeon to the Philadelphia Hospital, etc. With Elaborate Tables of the Bacilli, Micrococci, Leucomaines, Ptomaines, etc.; of the Arteries, Ganglia, Muscles, Nerves, and Plexuses; of Weights and Measures, Thermometers, etc.; and Appendices containing Classified Tables with Analyses of the Waters of the Mineral Springs of the United States, and Tables of Vital Statistics. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xi–519.

A German-English Dictionary of Medical Terms. By Frederick Treves, F. R. C. S. Eng., Surgeon to the London Hospital, and Hugo Lang, B. A. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. viii–403.

A good augury is to be drawn from the great number of new medical dictionaries and of new editions of old ones that have been published within the past few years or are now in course of publication. One can not have too many dictionaries;

each one contains some things that are not to be found in the others. Yet there are degrees of usefulness in dictionaries. The large ones, other things being equal, are incomparably more serviceable than the small ones, for it is about uncommon terms that dictionaries are oftenest consulted. The smaller works are chiefly of service to the undergraduate, who deals with only a very restricted range of medical literature.

Dr. Billings's dictionary is not copious enough to rank with those that we have classed as large, although it is published in two rather bulky volumes. It is comparable rather to Dunglison's than to the large medical dictionaries of the present day. It includes English, Latin, French, German, and Italian words in a single vocabulary, including chiefly those that are current, together with a certain number that are rarely used and a few "taken as examples of what attempts at useless word-building may lead to." It has decided merits, but it also has faults, both of design and of execution, that we shall endeavor to point out.

The title page indicates that the vocabulary includes the terms used in "medicine and the collateral sciences," but chemistry, botany, and zoology are so scantily represented that one may almost doubt if Dr. Billings regards them as collateral to medicine. The omission of botanical and zoological classification names, with very few exceptions, is indeed not to be wondered at, but we are surprised that the descriptive terms used by writers on chemistry, botany, and zoology are for the most part excluded. They are in constant use by medical writers, yet we look in vain in this dictionary for definitions of such words as *dibasic*, *tartarized*, *lævorotary* (although the less correct synonym *lævogyre* is given), *amic*, *atomicity*, *diatomic*, *triatomic*, etc , in chemistry; *calycular*, *equitant*, *supervolute*, *vexillary*, *diadelphous*, *diœcious*, *polyandrous*, etc., in botany; and *basibranchial*, *chondrogenous*, *desmognathism*, *ovo-viviparous*, etc., in zoology. All these terms and many more like them that Dr. Billings omits are accepted and current in literature, and the ordinary medical man, much as he may be inclined to neglect chemistry, botany, and zoology, is far more likely to meet with them in his reading than with the craniometrical terms invented by Lissauer, all of which Dr. Billings seems to have given scrupulously.

But there are many annoying omissions of words that have a technical meaning in medicine itself, such as *dull*, *dullness*, *dysmorphia* (although the German, *Dysmorphie*, is given), *duplicity* (the French, *duplicité*, being given), *interrupter* (French, *interrupteur*, given), *eventration* (in the obstetrical sense), *erythrocyte*, *element* (in the electrical sense), *apoplectoid*, *exalgine*, *diduction*, etc. On the other hand, the vocabulary includes some words not to be found in preceding dictionaries, such as *acromégalie*, *aprosexia*, and perhaps others that have escaped our notice. It is not easy to recognize any other system as having been followed in the matter of admitting or rejecting words than that of making a book of a certain number of pages; we know not on what other plan *diastematomyelia* was admitted, while sixteen other words in *diastemat-* (all to be found in other dictionaries and quite as important) were omitted.

Almost invariably the subheadings are given, not under the word constituting the fundamental term of the compound expression, but under the word that stands first in order, which often has no technical meaning and need not have been entered at all as a primary heading. This system is followed to some extent in almost all dictionaries, but we do not remember to have seen it so rigidly adhered to in any other as in Dr. Billings's. Its great disadvantage is that it compels the reader to lose time in searching through various parts of the book when he is in quest of information concerning, for example, the different pharmaceutical preparations of a certain drug, the varieties of a disease, or the like. For instance, under *opium* he will find in Dr. Billings's dictionary only subheadings beginning with that word (so far as preparations are concerned, only *opium crudum*, *opium denarcotizatum*, and *opium depuratum*), and will have to look under *tincture*, *extract*, *aqueous*, *compound*, *confection*, *elixir*, *pill*, *powder*, *electuary*, *suppository*, *etc.*, for the information sought for. Besides this drawback, the system is apt to lead to the omission of many subheadings, and it seems to have had this effect to a remarkable degree in Dr. Billings's dictionary. Thus, there are no subheadings under *diarrhœa*, and there is only one, *dysentery-weed*, under *dysentery*, while under the adjectives that are used to denote certain forms of dysentery we look in vain for mention of such terms as *bilious*, *catarrhal*, *choleroid*, *chronic*, *diphtheritic*, *hæmorrhagic*, *hepatic*, *inflammatory*, *intermittent*, *malarial*, *malignant*, *neuro-adynamic*, *putrid*, *remittent*, *rheumatic*, and *typhoid dysentery;* moreover, as the Latin equivalent, *dysenteria*, is not included in the vocabulary, there is of course no *dysenteria carnosa*, *castrensis*, *cruenta*, *gangrænosa*, *hæmatera*, *nephritica*, *nostras*, *putrida*, or *sicca*. As a further illustration of the paucity of subheadings, it may be mentioned that the word *electric* figures only in the expression *electric chorea*. In general, then, the vocabulary may be said to be meager, but we are glad to be able to add that, as regards the anatomical articles, they are very full and satisfactory; in fact, the anatomy strikes us as having been far better done than any other part of the work.

We regret to observe that Dr. Billings's authority is cast in favor of certain spellings that seem to us faulty, such as *aneurism* for *aneurysm*, *choroid* for *chorioid*, *erythroretin* for *erythrorrhetin*, *Fallopian* for *Falloppian* (although *Falloppio* is given), *gluteus* for *glutæus*, *gratiolaretin* for *gratiolarrhetin*, *hydrodictiotomy* for *hydrodictyotomy*, *ileo-polimelius* for *ileo-polymelius*, *ischiatic* for *ischiadic*, and *thyroid* for *thyreoid;* also that the rule for ending the names of glucosides in *-in* and those of alkaloids in *-ine* has not been observed in all instances. We approve of the preference given to *dioptre* over *diopter*, *dioptric*, and *dioptry* as a term for the unit of refraction of lenses, but we do not understand why its plural is said to be *dioptries*. *Calvaria* is given as the plural of *calvarium*, whereas we regard it as singular and look upon the alleged word *calvarium* as having no existence.

Dr. Billings does not state whether his major headings are nouns, adjectives, or verbs, etc. In most cases this is of little consequence, but in the case of the word *dilute*, which is defined both as a verb and as an adjective, the foreign equivalents given are only verbs.

In the matter of pronunciation, only that of English and Latin words is attempted, and, with very rare exceptions, nothing more than the accent is given. In many instances it seems to us to have been given incorrectly—for example, we find *angi'na* for *an'gina*, *antidot'um* for *antid'otum*, *antipy'rine* for *antip'yrine*, *antitra'gus* for *antit'ragus*, *apol'ar* for *ap'olar*, *apros'opus* for *aprosop'us*, *arbut'us* for *arb'utus*, *aristoloch'ia* for *aristolochi'a*, *aryt'enoid* for *aryten'oid*, *asthen'ia* for *astheni'a*, *brachypod'ous* for *brachyp'odous*, *catantostom'us for catantost'omus*, *discomy'ces* for *discom'yces*, *epidermophy'ton* for *epidermoph'yton*, *eusthen'ia* for *eustheni'a*, *dyscatapo'sis* for *dyscatap'osis*, *galactophthis' is* for *galactoph'thisis*, *hydat'id* for *hyd'atid*, *Hunya'di Ja'nos* for *Hun'yadi Ja'nos*, *hyperasthen'ia* for *hyperastheni'a*, *hypersthen'ia* for *hyperstheni'a*, *hyposthen'ia* for *hypostheni'a*, and *neurasthen'ia* for *neurastheni'a*.

In giving the etymology of words Dr. Billings simply mentions the Latin or Greek words without adding their meaning, consequently the reader will often have to resort to Latin and Greek dictionaries in conjunction with his medical dictionary, and sometimes he will have to devote considerable time to them, for the Latin and Greek words given have not always the same meaning. For example, *διά* commonly means *through*, but it also has other meanings, and it may take a reader no little time and trouble to learn that *diachylon* is not derived, as Dr. Billings says it is, from *διάχυλος*, but is formed of the two words *διά*, made from, and *χυλῶν* (genitive plural of *χυλός*), juices—the whole expression meaning, not *through juice*, but *made from juices*, which was sufficiently descriptive of the diachylon of the ancients. We notice that *dysodia* is said to be from *δυσοδία*. In the sense in which Dr. Billings defines it it is from *δυσωδία*.

Some errors in the gender of Latin adjectives have crept into the work, such as *diverticulum superior* (for *superius*) *ventriculi tertii*, *Dolichos tuberosa* (for *tuberosus*), *eczema epizootica* (for *epizooticum*), and *ecchymoma lymphatica* (for *lymphaticum*).

Dr. Billings's definitions are for the most part clear and accurate, their shortcomings being generally due to too much regard having been paid to conciseness. In particular we dislike the omission of the words *a* and *the* to save space—a saving that might better have been made by omitting the many Italian headings that are almost precisely identical with English or Latin words that either are given or ought to have been. It is a blemish that we regret to see sanctioned by so elegant a writer as Dr. Billings; moreover, in some cases it actually obscures the definition, as where the French word *cor* is defined as *corn*, instead of *a corn*. We have noticed a number of definitions that we think are more seriously faulty. *Edulcoration* is defined by the one word "sweetening," which is utterly inadequate. *Efflorescence* is defined as "a morbid redness of the skin" and as "crumbling of crystals on exposure to air." *Endometritis dissecans* is defined as "form in which the somewhat superficial lesions have a tendency to produce large and deep ulcers." *Hyperinvolution* is defined as "abnormally rapid return of uterus to its primitive condition and position after labor," the preferable word *superinvolution* being defined as "excessively rapid or prolonged involution." Both terms are absurd as applied to the uterus, but superinvolution is current as denoting post-partum atrophy of the uterus, or a degree of diminution in bulk beyond that resulting from complete involution; when involution has brought the uterus to its normal non-gravid state, any further shrinking is atrophy and not involution, either *super-* or *hyper-*. *Drüsendarre* is defined as "atrophy of glands"; it really means general atrophy due to glandular disease—in other words, tabes mesenterica. *Dürrmaden* is defined simply as "worms"; it means comedones. *Elæosaccharum* is defined as "oil-sugar," and no further information about it is to be found under either *oil* or *sugar*.

We have met with only a few errors of proof-reading, the most serious one being in the formula of *dimethylether*, which is given as CaH_6O, instead of C_2H_6O. Under *glossodesmus*, *frænum* appears, instead of *frenum*, but the word is given correctly in the major vocabulary. *Drum-belly* is defined as *tympanitis* instead of *tympanites*. The general appearance of the volumes is highly creditable to the publishers.

The preliminary matter includes a useful Table of Doses; a Table of Antidotes, with some introductory remarks on poisoning; Systems of Numbering Spectacle-Glasses; tables of Expectation of Life, of the Relation of Girth of Chest to Increasing Height in Men, of Average Dimensions of Parts and Organs of the Adult Human Body, etc.; and a polychromatic graphic representation of the potential energy of various articles of food. All this is very serviceable to the medical practitioner, but much of it is not the kind of matter that one looks for in a medical dictionary. We fail to see the propriety of the word "National" in the title of the book. On the whole, we regard Dr. Billings's dictionary as a work of considerable merit; but, as we said at the outset, as having serious faults both of design and of execution.

M. Thomas's little dictionary is a very praiseworthy addition to our present stock of books of its class. It will prove valuable not only to undergraduates, but also to those who have Littré and Robin's great work, to which it may serve as a sort of supplement of terms recently introduced. The definitions are exceedingly good, and we have noticed only a few terms lacking that we expected to find in an abridged vocabulary. The most notable of them is the word *échancrure*.

Treves and Lang's German-English Dictionary seems to us decidedly superior to any previous book of its class. The reader may perhaps wonder why, while they adopt the new orthography in the matter of the substitution of *t* for *th*, they cling to the somewhat antiquated terminations *-ieren* and *-ierung* for *-iren* and *-irung*.

Dr. Gould's dictionary is excellent so far as it goes, but the statement made on the title-page that it includes "all the words and phrases used in medicine" is preposterous. Moreover, so far as pronunciation is concerned, it gives only the accent. Without any good reason that we can see, its Greek words are printed without accent marks. A most commendable feature is its list of prefixes and suffixes. Everything considered, it seems to us one of the best of the smaller medical dictionaries.

BOOKS AND PAMPHLETS RECEIVED.

Some Recent Advances in the Diagnosis and Treatment of Abscess of the Antrum of Highmore. By J. H. Bryan, M. D., Washington, D. C. [Reprinted from the Virginia Medical Monthly.]

Reminiscences of Field-Hospital Service with the Army of the Potomac. By William Warren Potter, M. D., etc. [Reprinted from the Buffalo Medical and Surgical Journal.]

Discussion on Craniotomy. [Reprinted from the Transactions of the American Association of Obstetricians and Gynæcologists, September, 1889.]

A Dermoid Cyst of the Left Ovary. By William Warren Potter, M. D., Buffalo, N. Y. [Reprinted from the Buffalo Medical and Surgical Journal.]

On Hysterorrhaphy. By Howard A. Kelly, A. M., M. D. [Reprinted from the Johns Hopkins Hospital Bulletin.]

The Cure of Hæmorrhoids by Excision and Closure with Buried Animal Suture. By Henry O. Marcy, A. M., M. D., LL. D., of Boston. [Reprinted from the Annals of Surgery.]

The Animal Suture; its Place in Surgery. By Henry O. Marcy, A. M., M. D., LL. D., of Boston. [Reprinted from the Transactions of the American Association of Obstetricians and Gynæcologists, September, 1889.]

An Experimental Study of Lesions arising from Severe Concussions. By B. A. Watson, A. M., M. D., Jersey City, N. J. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. 8 to 76.

The Treatment of Torticollis (Wryneck). By Charles F. Stillman, M. Sc., M. D., Chicago. [Reprinted from the North American Practitioner.]

A Practical Splint for Inflammatory Conditions of Joints. By Charles F. Stillman, M. Sc., M. D., Chicago. [Reprinted from the American Lancet.]

A Rational Brace for the Treatment of Caries of the Vertebræ (Pott's Disease). By Charles F. Stillman, M. Sc., M. D., Chicago. [Reprinted from the Northwestern Medical Journal.]

Ueber die Entwickelung der sogenannten strumösen Bubonen und die Indicationen für die frühzeitige Exstirpation derselben. Eine klinische Studie. Von Dr. Hermann G. Klotz, in New York. [Separat-Abdruck aus Berliner klin. Wochenschrift.]

Studii bacteriologici sull' influenza. Nota del dott. C. Bergonzini.

Sialorrhöe in Folge einer fast ganz vicariirenden Ausscheidung des Quecksilbers durch die Speicheldrüsen. Von Dr. Ludwig Weiss, New York. [Aus der New Yorker medicinischen Monatsschrift.]

De la mobilisation de l'étrier. Par le Docteur E. J. Moure. [Communication faite au Congrés international d'Otologie et de Laryngologie de Paris, 1889.]

The 119th Annual Report of the State of the New York Hospital and Bloomingdale Asylum. For the Year 1889.

Fifty-seventh Annual Report of the Eastern Dispensary in the City of New York. For the Year 1889.

The Centennial Report of the Board of Trustees of the New York Dispensary. For the Year 1889.

Twenty-second Annual Report of the New York Orthopædic Dispensary and Hospital. For the Year ending September 30, 1889.

The Seventeenth Annual Report of the Metropolitan Throat Hospital for the Treatment of Diseases of the Nose and Throat.

Forty-seventh Annual Report of the Managers of the State Lunatic Asylum at Utica. For the Year ending S-ptember 30, 1889.

Seventy-sixth Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1889.

Transactions of the Medical Society of the State of West Virginia. Twenty-second Annual Session, held at White Sulphur Springs, July 17, 18, and 19, 1889.

New York Cancer Hospital. Fifth Annual Report, 1889.

Miscellany.

On the Prescription of Alcoholic Stimulants.—That it is possible to treat cases, both medical and surgical, and obtain results that are considered perfectly satisfactory, without the use of alcohol either as a food or a medicine, may be accepted as a demonstrated fact. The experience of the London Temperance Hospital shows that patients recover even after severe surgical operations, although alcoholic stimulants are entirely withheld. The experiences of Kane in the arctic region, and Parkes in the Ashantee campaign, show that, under the very exceptional conditions they encountered, alcohol was not only not necessary, but actually lessened the power of vital resistance. Stanley says that indulgence in alcohol in tropical Africa, even in the form of the lightest beer or wine, is fatal to Europeans. At the same time, it must be acknowledged that in the temperate zone civilized man almost universally uses alcohol as an accessory food, in some form or other, and that physicians, by general consent, accord to alcoholic stimulants an important place in therapeutics. As stated above, there are exceptions to this, and some physicians are opposed to their use absolutely, and appear to have no great difficulty in practicing medicine without their aid. But these extreme partisans of total abstinence are rare and far between. The question still undecided is, Do patients recover as quickly, as safely, and as comfortably without alcohol as they do when it is judiciously administered? By common consent this is answered in the negative, with the proviso, however, that as alcohol powerfully influences the vital functions, its physiological action should be kept in mind, and it should be prescribed with as much care as any other toxic agent.

Dr. Burney Yeo, in a recent address,* has taken occasion to protest against the cheap and common qualities of wines so universally used in hospitals in England. The fact is, that foreign wines so largely consumed, both in England and the United States, are more the products of the laboratory than they are of the vineyard. Given a certain quantity of alcohol or high-wines, a professional mixer of liquors, with a little caramel and flavoring, will be able to supply any kind of commercial wine or spirits to order. That imported wines are specially prepared for this market is an open secret of the trade, known to customers as well as dealers; what is not generally known is, that a large part, possibly the larger part of the supposed imported wines, are manufactured from cheaper wines in this country.

This being the state of affairs, we are ready to welcome and heartily second the efforts of the enterprising, intelligent, and persevering viniculturists who, during the last twenty years, have successfully solved the problem of growing grapes for the production of good, sound, honest, domestic wines in different parts of the country. The wine-growers of California, however, having special advantages of climate, thus far appear to have distanced all others in the race. The New York Medical Journal instances particularly the wines and brandy, either for medicinal or table use, sold by the California Vintage Company. It is difficult to understand, except as a matter of habit and routine, why physicians continue to prescribe adulterated and inferior foreign or factitious wines, when a better class of goods, more fitted for the purpose in every way, is offered at a lower price. Americans should drink American wines. Let us encourage domestic industry, especially where, as in some of the wines and brandy, the home-products are more reliable, better in quality, and at the same time more reasonable in price.

The culture of the grape in this country has now reached a point where it can successfully compete with Europe. If it receives due encouragement, the benefit will be mutual among producers and consumers, and physicians can prescribe alcoholic stimulants with more discrimination than is usually exercised at present.—*Dietetic Gazette.*

Only a Doctor.—The Medical Record speaks in general commendation of an address lately given by Dr. David W. Cheever before the graduating class of the Harvard Medical School, but concludes, in terms that we heartily indorse, as follows:

"But Dr. Cheever has made some mistakes in his advice, and mistakes which no one occupying his position as a teacher and molder of young minds ought to commit.

"He says: 'Do not allow yourself to be known as anything but a doctor'; 'unlike the law, medicine leads to nothing else save science.'

"We submit that it is just because doctors have always inculcated such sentiments as these that doctors hold so small repute in public life. Socially the doctor is often shunned because he can or will talk nothing but his everlasting 'shop'; politically the highest office he can legitimately seek is that of an assistant coroner. The wishes of a great State Medical Society have less weight than that of a single ward 'boss.'

"This all comes not alone from the exacting nature of his duties, but much more from the fact that the doctor has been constantly inoculated with the deadly virus of the Cheever sentiment, 'Do not allow yourself to be known as anything but a doctor.'

"Would it be any harm if the doctor were known also as a philanthropist, or a sanitarian, or a statesman, or an anthropologist? Successful physicians have filled all these rôles, but it has been far too rarely.

"We quite agree that professional work is first, and beyond everything else, in the doctor's life; but the times are changing; the physician belongs to the best educated classes, his mind receives through his professional work the best kind of training. He owes something to society in general as well as to the sick. Every doctor ought to have some interest outside of his profession. It will make him a more useful and interesting man and a more skillful physician. The constant and assiduous pursuit of the calling of physic tends to produce a routine in methods of thought and action. The doctor, like the overtrained athlete, gets 'stale.' Let him, therefore, always cultivate an antidote, and let people gradually discover that though he is a good physician he is something else also."

Duty on Cod-liver Oil and Sugar of Milk.—We find the following editorial articles in the Oil, Paint, and Drug Reporter:

"The McKinley tariff bill proposes a duty of fifteen cents per gallon on cod-liver oil, and an additional duty on the packages, which would make the import tax five dollars per barrel of thirty gallons, based on the present free on board price in Norway, against two dollars and twenty-five cents per barrel under the present rate of duty—viz., twenty-five per cent., packages free. An earnest protest against this proposed increase has been drawn up for presentation to the Ways and Means Committee and has been signed by thirty-three manufacturing chemists and druggists of the United States who are the principal consumers of the oil. The petition, with the signatures attached, will be found in another column.

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* Before the Section in Pharmacology and Therapeutics, British Medical Association, 1889.

"Of all the articles of foreign production consumed in this country, cod-liver oil is one that offers the least excuse for an increase of duty. The quantity of medicinal oil manufactured here is and always has been insignificant. In the words of the petition, it can not be obtained in sufficient quantity in the United States, because of the limited supply of fresh cod-livers, and this fact offers a strong reason why the present rate of duty should be left undisturbed, or, if changed at all, removed entirely as the petitioners request. An even stronger argument for the removal of the duty is the use to which the oil is put. While in Europe the low prices prevailing for the last few years have encouraged its employment in mechanical processes, in this country it continues, and probably always will continue, to be used almost exclusively in the manufacture of medicinal preparations, and as an article of food for debilitated people, for which there is no actual substitute as yet known to medicine. In the absence of any real reason why it is necessary or expedient that the duty should be increased or the present rate continued, the petition we have quoted should have weight with Congress and prevent legislation that would be unwarrantably injurious to the interests of manufacturers of highly important medicinal compounds, and the welfare of consumers, who form a large proportion of the inhabitants of a country where pulmonary troubles, for which this oil is a sovereign remedy, are particularly prevalent. We very much fear, however, that the petition will fail to bring the desired relief."

Concerning the proposed duty on sugar of milk, the Reporter says:

"We publish elsewhere in this issue a copy of a petition which has been sent to the Ways and Means Committee relative to the proposed imposition of an import tax of ten cents per pound (about seventy-five per cent.) on sugar of milk. The petition was widely circulated and obtained the signatures of every large wholesale druggist in this city and of many prominent firms doing business elsewhere. It is also intimated that the American manufacturers would prefer to have milk sugar remain on the free list, although their objection to the change is supposed to be the result of a fear that protection of the industry would too greatly stimulate home competition. They would prefer a smaller tax, we understand, if the foreign article is to be taxed at all, and have intimated that a duty of two cents per pound would be a sufficient protection. Exactly what are the home manufacturers' sentiments on the question can not be learned, but at any rate the agents of one of the largest American producers were among the signers of the protest against the duty proposed by the McKinley bill. It would seem, therefore, that the opposition to the proposed tax on this article is very general, and there appears to be good ground for it. Until a few years ago all the sugar of milk used in this country was imported from Europe. During the interval several firms here have engaged in the business of producing the article, but, with one or two exceptions, have met with little success.

"It is claimed by the opponents of the proposed duty that sugar of milk can not be made in this country on a paying basis in sufficient quantity to supply the requirements of consumption, for the reason that the conditions surrounding the processes of manufacture are vastly different from those prevailing abroad. It is in the Alpine districts of Europe that milk sugar is manufactured. There every small farmer makes butter and cheese. The crude sugar is crystallized from the whey and this (the 'sugar-sand') is sold by him to itinerant collectors who make periodical trips through the country and gather up the supplies for which they exchange articles of clothing, household wares, or knick-knacks. The manufacturer, the refiner, thus gets his crude stock for a very small sum and can afford to sell cheap. It is claimed that the manufacture of milk sugar has never been made a success in this country; that practically it—the domestic—is never to be had in the market; that there are always people who are going to supply it at some future time, but who are certainly never offerers of it, nor quoters in response to inquiries for a high grade article. Time and time again its manufacture has been abandoned by experimenters. It seems that in the Alps it is not alone the economic conditions that are favorable, but that the climate, the milk itself, are peculiarly adapted to the successful and economical crystallization of sugar. Thus it appears that the consumers of milk sugar, the invalids and infants, are to be made to pay an increased cost, simply to favor or to protect what is at present a purely hypothetical industry. Sugar of milk can never, no matter how cheaply nor how largely produced, be made to take the place of cane sugar, or of the sugar used in food. It has little or no sweetening properties, and is, in fact, almost exclusively confined to pharmaceutical purposes. Consequently the consumers and dealers in this commodity who have signed the petition believe that they will always be dependent upon foreign sources for the greater part if not the whole of their supply, and that the only effect of the proposed duty will be to increase the cost of milk sugar and of compounds of which it is an ingredient. The petition particularly makes a point of the fact that the use of sugar of milk is almost wholly confined to the manufacture of medicinal preparations and in food for invalids and children. On this score alone, it is held that it should be free from tax, as it has been heretofore.

"The fact that sugar of milk is classed with dairy products and not as a medicinal substance, which it is essentially, indicates that the framers of the bill have mistaken the nature and uses of the article. If this is so, the concise manner in which the petition calls attention to the error should have the effect of causing the correction to be made in the manner desired."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

LECTURES ON SOME POINTS IN THE TREATMENT AND MANAGEMENT OF NEUROSES.

DELIVERED BEFORE THE
MEDICAL SOCIETY OF THE UNIVERSITY OF TORONTO,
March 11 and 12, 1890.

By E. C. SEGUIN, M. D.,
PROVIDENCE, R. I.

(*Concluded from page 536.*)

LECTURE III.

II. Rest.—The extreme importance of rest in chorea has been already stated. In some cases of neurasthenia and of hysteria absolute rest and separation from the family are called for. This "rest treatment" of neurasthenic conditions you will find fully detailed in Mitchell's books.

With regard to the great majority of cases of neurasthenia, nervous dyspepsia, migraine, neuralgia, etc., a judicious partial rest is sufficient, and, indeed, all that most patients can afford to have, as comparatively few patients have the means of entering a sanitarium or of going away from home with a nurse for three or four months. In all such cases I direct one or two periods of physical and mental rest in each day. The patient is to retire to a quiet room, away from noises and calls by relatives (children especially), and lie quietly for an hour or two. Undressing is not necessary, but, in the case of women, the corset should be removed. No one should be in the room, and diversion is to be sought by reading or by pleasant lines of thought, directed toward the time when the cure shall have been accomplished. This is a variety of treatment by "mental suggestion" in the wide-awake state which should never be omitted. Urge your patient to look forward and never backward, to do her best to ignore her numerous paræsthesiæ or secondary symptoms, and to try to keep her mind occupied with ideas relative to the happy time when she shall be well. This requires judicious, forcible, and cheerful conversation on your part, and, where it is possible, through your suggestion, on the part of persons near the patient. When the patient lives in a small house, in which it is impossible to have a room for the above purpose, I advise that she spend the hour or two hours at a friend's house, or that she (female patients constitute the majority of such cases) send the children clear away from the house for the time. In these ways, in spite of unfavorable social conditions, you may be able to secure rest for your patients. At first this lying quietly is very hard; the patient is more nervous, feels "as if she would fly," etc.; but by perseverance the difficulty is overcome by the establishment of the new habit.

III. Seclusion is especially successful in hysterical cases, more especially those in which there is mimicry of a serious disease, voluntary starvation, or apparent sleep (lethargy). In some cases forty-eight hours of rigid separation from the sympathy and attention of relatives will cure or greatly relieve a case of "fancy hysteria," as I call it. I have practiced this treatment regularly (whenever the relatives of the patient would permit) for at least fifteen years, and had had many successful cases before Charcot published his experience on the subject. The following case will serve as an illustration: In 1878 I was called to see a very bright girl of thirteen years, the daughter of a healthy physician, but of a nervous (hysterical and choreic) mother. The child had witnessed many of her mother's severe seizures. The child had been suffering for a week or more from an excruciating "neuralgia" of the left hand and forearm, which no treatment, general or local, had relieved. She seemed in good health, and complained only of her hand, which she held rather rigid in a conical attitude, in constant fear of its being touched, handled, or moved. The pain, she declared, was all through the forearm and hand; it did not follow the distribution of any one or two of the three nerves which supply the hand. There was neither anæsthesia nor atrophy nor discoloration, but great hyperæsthesia was present. She was constantly attended by her mother, her father had almost given up practice in order to be with her frequently, and her young friends were calling on her, sending her notes and bouquets—in other words, she was a badly coddled invalid. I might add that she had not presented any of the common hysterical symptoms, a fact rather common in the history of similar cases of neuro-mimisis. After a few days of attendance, I became convinced that the case was one of delusional pain in a hysterical subject, and, after trying several remedies, persuaded the father to let me try moral treatment for a week. The room was stripped of some of its pretty things, notes and bouquets were intercepted, the parents resolutely kept away from the patient's room and floor, and the servant was directed to leave the (plain) food on the table by the bed without holding any conversation with the child—in short, she was rigidly secluded one afternoon. The next day about noon, while the door was opened to allow of her food being brought in, she called out loudly so that her father heard her on the floor below, "I am better, papa." The next day she went down stairs *well*, and remained so. Now this case was one which, judging by experience, would have grown worse and worse under treatment and misplaced sympathy; the "neuralgia" would have extended to other parts, spasmodic attacks supervened, and perhaps semi-starvation practiced, wrecking the child's life. I will ask you to remember that this was done in 1878.

When you propose a thorough rest-cure or seclusion in a case of neurasthenia or hysteria the family are always anxious to have this carried out at home. Usually I believe that this leads to failure, more especially in the case of neurasthenic women worn out by child-caring and household duties and worries. They must get clear away, and, if possible, to another city. In the house a thousand sights and sounds suggest lines of thought relative to matters which have exhausted the patient, and, besides, there is often added a feeling of self-reproach for the apparent (obligatory) neglect of customary duties. By all means, remove the patient from her own house to a hotel, boarding-house, or to a friend's residence. In some cases of hysteria, if you have the earnest co-operation of relatives, the treatment may successfully be carried out at home, but even in such cases you should have a good nurse with the patient.

IV. Bathing.—I have great faith in cold water judiciously applied. With the use of the "pack" my experience has been limited, though I think that I have obtained good results from local cold packs to the epigastrium and abdomen in neurasthenia and nervous dyspepsia, and round about the genitals in impotence and irritable weakness of the male organs. The pack is to be left on from half an hour to an hour only.

The use of cold water in such a way as to bring about reaction and a permanent improvement in circulation has been prominent in my treatment of neuroses.

1. The cold douche, general or spinal. This should be short, from five to twenty seconds by the watch, the head protected by an oiled-silk cap. The short cold spinal douche certainly seems to have a beneficial effect in neuroses and in posterior spinal sclerosis. Force should be given to the jet, and this is best done in establishments furnished with suitable apparatus. Unfortunately, in this country the "water-cures" are not what they should be, and a physician's prescriptions are disregarded by the medical men in charge; they follow their own plan, which, I understand from statements of patients, consists chiefly in immersion baths, long-continued packs, and the electric bath. At the patient's home a rubber tube and nozzle may be fastened to the delivery tube in the bath-room, and the part sprayed by a relative or servant. If there is no running water with power, it is necessary to *throw* the water with as much force as possible from a cup or pitcher upon the back or other parts.

2. Rubbing with a cold, wet towel or sheet (using salted water preferably). In the sheet application I usually have the patient stand naked in a warm room, the nurse or *masseur* throws the wet sheet over his shoulders, and then rubs every part of the body below the head very briskly and hard with the cloth. This step may last from two to three minutes. The patient is then dried and lies on a sofa or bed wrapped in a blanket while the operator applies ordinary friction or regular massage to the whole body. This second step of the operation is usually much too long, a manipulation of from thirty to forty minutes being long enough for strong patients, while many ought not to be rubbed for more than ten or fifteen. In this matter you should keep a strict control over the *masseurs* or nurses, as they almost all are convinced that they must give the patient an hour of hard work. Dr. Douglas Graham, of Boston, and Dr. Murrell, of London, have both insisted on this point—viz., that massage should be moderate and never exhausting.

3. The simple cold sponge-bath is practiced by many of my patients. I direct this to be very brief, not more than two minutes. In winter it is well for the patient to stand in hot water during the sponging. It is to be followed by hard rubbing, done by the patient when he is fairly strong, or by a relative or nurse when he is weak. In many cases, where reaction is feeble, it is better to have this done at bed-time, as the patient can at once get into bed, and react more fully.

4. The cold foot-bath has been recommended very highly in cases of neurasthenia and of paræsthesiæ in the head (miscalled cerebral hyperæmia). The feet and legs are to be immersed in cold water for one, two, or three minutes, then rubbed hard. In some cases this brings about a strong reaction.

5. There are two opposite conditions of the hands and feet met with in practice which are very amenable to the proper use of water. I refer to cold or burning feet and hands. For the latter I direct a short douche with the hottest water which can be borne twice a day. For cold extremities (which are by far more common) I make use of the cold bath (one to two minutes) or of cold showering. I have warmed the feet of hundreds of people by having them give their feet a hard rub under a stream of cold water night and morning, the good results appearing in the course of ten days or a fortnight.

In connection with the symptom of habitual cold feet, I would refer to the proper foot covering. I have become convinced that too warm or woolen stockings are conducive to cold feet, by having in great numbers of cases witnessed very rapid improvement follow a change to light cotton or thread hose. The explanation is simple. Woolen socks or stockings favor perspiration; this occurs under a practically impervious covering (the shoe) and evaporation is prevented. The result is moist, cold feet. Thread or light cotton hose, on the contrary, keep the feet dry, and consequently warmer. On the rest of the body, in spite of outer clothing, evaporation goes on fairly well, and the use of wool is admissible.

Menstruation need interrupt these various uses of cold water only for two days, as after that, in my opinion, the flow is seldom checked by the application.

6. This leads me to mention a most important matter—viz., the checking of menstruation in anæmic female patients. I am thoroughly convinced that the profuse flow of women at the present day is not only unnecessary but is a great loss, and I have attempted to check it in my cases, with marked benefit. Internal remedies—such as ergot, tannic acid, etc.—exert little or no influence on the flow. The bromides are much more potent, but they must be given freely and almost continuously, which of course would be injurious to weak and neurasthenic patients. Following the advice and successful practice of Löwenthal, of Lausanne,* I have made use of large hot vaginal injections twice a day from the beginning of the menses in several cases with decided effect in reducing the flow or shortening the "period" by one or two days. In some cases I believe that even tamponing, as advocated by Gehrung,† of St. Louis, would be justifiable to prevent the recurrent monthly anæmia which is the curse of so many women's lives.

Exercise.—Many neurasthenic patients will tell you that they have exercise enough in their household duties and business conditions; but in saying this they make an enormous mistake. These patients are tired and exhausted by their occupations, but they have not had physiological exercise. I can not here enter upon a consideration of the value of the various forms of exercise, by simple muscular action and by the aid of apparatus. Suffice it to say that by exercise I mean the systematic use of certain muscles with a clear object, local or general, in view. Walking is what I almost invariably require of my nervous patients (excepting those who have severe uterine or ovarian lesions). A walk after breakfast is my favorite order, but this is partly to oblige the patient to get a supply of fresh air after having been housed so long.

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* Revue de thérapeutique, 1888, cited by Gehrung, Am. Jour. of Obstet., 1888, p. 1138.

† Am. Jour. of Obstet., 1888, p. 1138, and 1889, p. 1072.

It is surprising how many intelligent women do not realize the fact that they are frequently indoors from six or seven o'clock in the evening until one or two the next afternoon. Nor do many patients who "can not eat" breakfast appreciate that they are thus made to go nearly eighteen hours without useful food.

Walking and other exercises should be carried to the point of slight fatigue, but exhaustion should be avoided, and in this we must trust the patient's judgment. Many patients should take broth or hot milk on coming in from the morning walk and lie down for half an hour. One exercise I would especially recommend—viz., the practice of forcible inspiration. In this the patient is to be almost undressed, at least free from restraint about the body, stand erect, place the closed fists over the breast, and extend the arms slowly and fully, with all possible force, at the same time that the thorax is expanded and raised to the utmost by a slow inspiration taken with the mouth open. This is very fatiguing when properly done, and from six to eight breaths twice a day will be sufficient. You will be surprised, I am sure, at the increase in chest breathing and the general improvement which this simple exercise brings about. It should be kept up, night and morning, for many months.

Systematic gymnasium work would be good if we everywhere had judicious instructors; unfortunately, most gymnastic teachers are ignorant of the principles of physiological gymnastics, and overwork the pupil, besides developing muscles which medically are of no importance. It would be well, in sending a patient to a gymnasium, to specify in writing what exercises you deem necessary.

I referred a while ago to the desirability of giving neurasthenic patients fresh air, and this leads me to throw out the following additional hints.

Patients who are unable to leave their room from the severity of their symptoms or because you are carrying out a rest-cure should have fresh air daily. In such cases I direct that the patient shall be well covered up (if bed-ridden), with a cap on, and that all the windows be opened wide for a time (from ten minutes to an hour) once or twice a day. For patients who are able to sit up, I order that they shall put on a hat, outer garment, and even gloves (dressed as for going out), and that the windows be then opened as above described. I do this even in midwinter, when the patient must use furs and warm gloves to keep warm, with the happiest results.

You will often find neurasthenic patients in a very warm room. This, I believe, is very bad for them. It reduces their nervous vitality and hinders the normal reactions which are essential to a good circulation. I always have a thermometer placed in the patient's sitting and bed rooms, and direct that the temperature shall never be allowed to reach 70° F. From 66° to 68° is the best temperature. If the patients complain of feeling cold, have them put on more clothing, or be covered up more (if in bed). Another mischievous practice is the long-continued use of hot water in bags or bottles placed at the patient's feet. This practice prevents reactions and reduces the energy of the vaso-motor nerves. To use a hot application immediately after a cold one to favor reaction is reasonable and successful, but I believe that the continued application of heat is pernicious.

The warm or hot bath, with complete immersion of the body for from ten to thirty minutes, finds a place in my practice. I use it in some cases of insomnia where excitability or a condition of "fidgets" is prominent. In some insane asylums of Europe these prolonged warm baths, sometimes kept up for several hours, under the supervision of a medical man, are used to allay the excitement of acute and chronic mania, in preference to the use of mechanical or chemical restraint. I have certainly been pleased with the effect of a long, hot bath at bed-time in excited cases of insomnia and in some states of "nervousness."

Passive exercise has been fully treated of in the works on rest-cure. It consists in gentle faradization of most of the muscles of the body, or in massage combined with so-called Swedish movements. My observation has been that *masseurs* usually do too much; they often exhaust themselves and the patient, too, in their attempt to give the worth of their fee. In most cases, I instruct the operator myself as to the length of the treatments and the proportion of massage and passive movement which is to be observed. As before stated, I often direct that the manipulation be preceded by a rapid, brisk cold sponging or toweling. Massage, like active exercise, should never be carried to the point of exhaustion.

The Abuse of Certain Drugs in the Treatment of Neuroses.

I. Alcohol.—While I believe that alcoholic stimulants may play a wholesome or profitable *rôle* in dietetics and therapeutics, I think that these liquids are habitually used to excess, and fear that the medical profession is not quite free from the reproach of having been the means of starting many persons down the hill of alcoholism. You will often hear it said that the most injurious form of stimulation—*i. e.*, that by "drams" or drinks of the stronger liquors—is more prevalent in English-speaking nations than on the continent of Europe. I am not so sure of this, for the habitual daily use of strong drink is a widely spread evil in the whole of northern Europe and in Switzerland. You will be told that the use of beer, ale, and native (pure, though rough) wines, which are drank mostly at meals in Germany, France, Italy, and Spain, is not harmful. This, from considerable observation, I think is a dangerous error. What these beverages lack in strongly intoxicating power is made up by the larger quantities which are ingested, and I think that much mild chronic alcoholism is thus set up, in a perfectly "temperate" way, besides the production of gastric disease (dilatation and catarrh), and of the lithæmic and gouty dyscrasias. In other words, I am convinced that most civilized people who use stimulants take too much; though, of course, dram-drinking of whisky, brandy, anisette, schnapps, etc., sets up gastric and nervous disease more quickly. In the interests of the race in general and of the families whose medical advisers we are, there can be no question but that it is our duty to set our faces against alcoholic excesses and to be careful that our prescriptions do not serve as a temptation or an excuse to patients.

Allow me to be more specific. I have known several cases of alcoholism in women which had their starting point many years before in a carelessly given order to take some stimulant before dinner, on the plea that it would give an appetite. Again, I have known a woman to contract a strong alcohol habit by "taking a teaspoonful or so of brandy" when she felt badly, by a physician's advice. It is especially in the case of female patients with chronic gastric or nervous affections that it is dangerous to prescribe stimulants, except temporarily under careful watching. In severe acute diseases, as fevers, pneumonia, etc., the free use of alcohol for a few weeks does not seem to create a habit or craving; as the patient progresses in convalescence more and more solid food is taken, and the stimulant may be reduced to a normal minimum at meals, or left off altogether.

Another objection to the use of stimulants in neuroses is that they tend to weaken the patient's power of resistance to disease. In other cases, particularly where the vasomotor and cardiac nerves are weak, they produce, in small doses, the cerebral symptoms we call tipsiness or intoxication, and increase the palpitation and sense of pulsation which is often felt by these patients in a most troublesome way.

Two years ago I saw in consultation a young married woman who had these symptoms, particularly palpitation with sensation of turning over of the heart, with a pulse seldom below 110, and made to rise to 120, 140, and higher by very slight exertion. She would spend half the night sitting or half lying, in mortal fear of stoppage of the heart. She was kept in the house by this fear, and also by the fact that any exertion increased her pulse-rate very much. I found that along with an otherwise well-appointed treatment she was taking "a teaspoonful or so" of brandy every three or four hours, or when she felt "weak and badly." Stopping the alcohol absolutely and giving one two-hundredth of a grain of aconitia every four hours relieved these cardiac symptoms so much that in a few weeks the patient slept well and was out walking and driving.

The diagnosis of chronic alcoholism in private patients (women especially) is difficult, and often can not be determined positively until you have had the patient under your care for some time, when, by repeated questions addressed to the patient and her relatives, you gradually learn the whole truth about the number and size of the drinks he or she has been taking and how far back the practice dates. A nurse with tact and shrewdness is here of immense assistance. You will be surprised at the light which such patient observation will throw on some obscure and unmanageable cases. There is not as much lying about stimulants as there is about opium or morphine or cocaine, but the patient constantly tries to impress you with the moderation he has observed.

Let me ask you, gentlemen, to prescribe alcoholic stimulants, especially to women, only on the clearest indications, to direct that the liquor be measured out exactly as by your order, and seek an early opportunity of stopping it. In cases of simple sub-nutrition and anæmia, ale and good claret or Burgundy wine, taken with food, doubtless assist in the flesh and blood-making processes. In cases where a gouty or lithæmic element is present, the least harmful stimulant is whisky or gin, largely diluted, with the solid meals. Before meals stimulants certainly do much harm; they seem to create an appetite, but this, I fear, is usually only a local sensation due to the intense irritation and hyperæmia induced by the dram. Pray never order a drink heedlessly.*

II. Morphine and Preparations of Opium.—Doubtless, you are more awake to the danger of carelessly prescribing these remedies; yet, in my experience, physicians are still largely responsible for cases of morphine habit. Only this winter I met with a case in which this fatal habit resulted from a dose of morphine casually given to a patient for a moderately severe pain by a physician hurriedly making the round of his extensive country practice, a fact to which he probably never gave a second thought in his busy life. Let me ask you to bear in mind that these medicines are almost always useless in neuroses, while they positively aggravate cases of migraine, hysteria, and neurasthenia. I have notes of several cases of migraine which were changed from the usual type of monthly or semi-monthly recurrence, to weekly, and finally to daily headaches; in other words, the patient became the victim of constant headache only kept within bounds (according to the patient's belief) by the daily use of the remedy in steadily increasing doses. I have made it a fixed rule of my practice never to give morphine for chronic habitual headache. I tell the patient this on taking charge, and fight the paroxysms more or less successfully by the use of all other remedies. The same is true of the fulgurating pains of tabes; a morphine habit is very easily set up, and in both these diseases (migraine and tabes) patients who have passed through morphinism strongly express it as their conviction that the sufferings caused by this are far worse than those due to the original disease. In tabes I make a few exceptions; there are some paroxysms so terribly severe, so much beyond the possibility of endurance that, after trying chloral, sulphonal, etc., I feel obliged to give relief by morphine, given only once or twice.

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* Since delivering these lectures, I have seen a case strikingly illustrative of the responsibility attaching to the prescription of stimulants. A married woman, aged forty, came from a Western city to consult me for remains of a paralytic attack. Some five years previously, after some symptoms of phthisis, she was ordered to take whisky several times a day by a physician of high standing in his locality. Gradually she increased the quantity to one gallon per month and more. A year ago pregnancy caused vomiting, and she was "obliged" to live on stimulants, using two and even three gallons a month. Still no check was put on by the physician. A miscarriage relieved her in the seventh month, and for a few weeks she used very little stimulants. From early in October to a month ago she resumed the larger doses of whisky up to one gallon a week. Singularly, she was never intoxicated, her memory was not impaired, and her phthisis seemed in abeyance. But in November and December last she began to have numbness and anæsthesia of the fingers and forearms, toes, feet, and legs, followed by almost complete paralysis with muscular wasting. In other words, she developed an attack of multiple neuritis. Some improvement began in February before the stimulants were reduced, but since three weeks, when, by advice of another physician, she almost entirely gave up stimulants, recovery has been extremely rapid, so that there is barely a trace of tactile anæsthesia left in feet and hands, the muscles are fairly nourished, she can use her hands, and walk with a stick. The knee-jerk is still absent, and, what is more serious, her urine contains a trace of albumin and some hyaline casts. What a lesson such a terrible case teaches!

Some of you have doubtless been astonished at the doses of morphine which a woman in an acute paroxysm of hysteria will support; it seems to have very little effect on her, and I believe that it aggravates the symptoms. In such a case you will be even more surprised at the happy effect of a hypodermic injection of from one one-hundredth to one fiftieth of a grain of crystallized hyoscyamine; it almost invariably cuts the attack short and procures rest. Above all, it creates no habit, there is no craving for it afterward. A large experience with this alkaloid and with aconitine has convinced me that with neither of them is there danger of habit.

There are some nervous affections in which the use of morphine is necessary and justifiable, but this is in acute short forms of disease—as, for example, true neuralgia [*] (perineuritis of various nerves), the pains of intracranial tumor and of intracranial syphilis (though usually these terrible pains yield very readily to antipyrine or chloral), and some cases of melancholia. In giving morphine to such patients I would urge you to give it yourself or by the hands of a medical assistant; almost never by a nurse, and to *never* leave the control of the drug to the patient. It seems to me criminal to give a syringe to a patient. In this way you can reduce the doses when you see fit, and cease its use when recovery has set in. In some cases (melancholia, for example) the patient should not know what you inject; a falsehood in this respect is justifiable, though you may save yourself that by telling the patient that he can not know what the remedy is. The greatest danger of morphine habit exists when the patient has a knowledge of the drug used and of its happy effects on his sensations.

In other departments of medicine, in cases of cancer and far-advanced phthisis with painful complications, the steady use of morphine may be justified, but even here the administration of the drug should not be left to the patient.

A last caution: if in a case of acute sciatica, tabes, or intracranial disease you are tempted to give morphine, do not allow yourself to be governed by the patient's mere verbal assurance that he suffers greatly; you should learn to control this by other indications of suffering, such as the physiognomy of the patient, loss of sleep and of weight, etc. Many a patient will tell you that she can't bear the pain any longer, while her face is placid and her attitude normal, and you learn from others that she sleeps fairly well.

A further trial should, I believe, be made of hypodermatic injections of harmless substances *loco dolente* for the relief of many local pains (not headache or trigeminal neuralgia). Large (twenty to thirty minims) injections of hot or cold water, smaller ones of from two to four per cent. of carbolic acid, of sulphate of quinine (two or three grains in thirty minims), of osmic acid (five minims of a one-per-cent. solution), of brandy and water (equal parts), have all given relief more or less permanent in various cases in my practice.[*] To this list may now be added antipyrine, of which from five to ten grains dissolved in three times the amount of water may be injected. For relief of local pain we also have, of course, the numerous counter-irritants, the latest of which, spray of chloride of methyl, is extremely efficacious even in pains of long standing. By all and every means at your command pray avoid or postpone to the uttermost limit the use of morphine in nervous diseases, especially in female patients. Our responsibility, gentlemen, in respect to alcohol and morphine is very great indeed.

III. Bromides.—Every few months I see a case in which the unwise administration of these salts has been injurious to the patient, and I am thus led to the belief that this must represent a vast amount of abuse throughout the country.

In the larger category of cases, constantly encountered, the bromides have been given for nervousness or insomnia, regardless of the indications presented by the patients, with the result of reducing the force of the heart and the arterial tension, causing gastric disorder, and generally increasing the neurasthenic state. In insomnia observation has taught me that these salts are very rarely useful, only in such cases as present great motor excitability with a plethoric or sthenic state, or in cases where an intense peripheral irritation (sexual more especially) is one of the causes of restlessness or sleeplessness. In the vast majority of cases the indications point to a feeble intracranial circulation with reduced arterial tension and general malnutrition. Stimulants and tonics, with improved diet, exercise, and mental rest, are the remedies for such cases. True narcotics I avoid giving, or give them only occasionally if the amount of sleep fall below four hours. Furthermore, the wide-spread idea that bromides exert a hypnotic action seems to me erroneous. Any one of us might take an ounce of bromide of sodium this evening without influencing our sleep; the sedative effect would be manifest in the next day or two. The basis of the notion that bromides are hypnotic is in the fact that their continued use in full doses develops a dull, stupid, and even semi-comatose condition; but this I believe to be utterly different from true sleep and to be due to a profound alteration in the constitution of the cortical gray substance. A proof of this (apart from differences in the phenomena themselves) is afforded by the after-effects. If we cease giving a true narcotic, the next night the patient is wide awake again, but after ceasing full doses of bromides a week or two must elapse before the patient's cerebral condition becomes normal. Besides insomnia, there are two affections for which bromides are recklessly used and with injurious effects. I refer to mental diseases (melancholia, mania, deliria of toxic origin) and hysteria. Every symptom in melancholia speaks against bromides, and calls for tonics, stimulants, and occasionally true narcotics. Even in apparently sthenic mania the ultimate effect is not good. Under the influence of these salts the various symptoms of hysteria (neuralgia, spasmodic attacks, paralysis, and emotional disturbances) are aggravated.* So true is this that in some rare cases where a doubt exists as to whether convulsions are epileptic or hysterical, a trial of bromides will greatly help settling the diagnosis.

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[*] I express myself in this way to exclude some forms of headache which are often viciously called "neuralgia" by both patient and doctor.

[*] Many other substances, all acting more or less as counter-irritants near the affected nerve, have been used. The general principle of this medication was first advanced (and very fully) by Luton (Arch. gén. de méd., Oct., Dec., 1863, and 1873, ii, p. 533).

The conditions known through a feat of imagination as "hyperæmia of the brain," which has been quite a prominent figure in our array of diseases during the last twenty years, and which is now beginning to be studied and reclassified into more correct clinical types, was and is still the object of treatment by the free use of bromides. The creation of the "disease" was mere theorizing, and its treatment dictated by apparently logical deductions from a fanciful premise. We now know that many of those cases, which provisionally I have for several years designated as "paræsthesiæ about the head" (the most common symptoms being fullness, tightness, numbness, emptiness, and some pain in the head, imperfect sleep, nervousness and hysteroid conditions, flushing of the face, with cold extremities, asthenopia, tinnitus aurium, apparent loss of memory, etc.), are really dependent upon eye-strain (especially those in which occipito-vertical symptoms predominate), lithæmia, dyspepsia, and not rarely upon weak heart or mitral regurgitation. The time has not come for a successful or final analysis of this symptom group, but the belief in the original conception of its hyperæmic nature is fast disappearing. Practically, in this condition the bromides give only transient relief in some cases and aggravate many others. It is especially in such cases that I have seen severe bromism produced.

In 1884 a prominent bank officer from central New York was brought to me with many symptoms of dementia paralytica. He was stupid and forgetful, his speech slow and thick; he often used the wrong word and often was at a loss for a word; his tongue and hands trembled (but not his facial muscles); he was feeble, walked in a staggering way, and his knee jerks were greatly increased. He had not the exalted notions of paresis, his pupils were normal, and his speech did not present the vibratory or jerky imperfection of paresis. On inquiry, I learned that some weeks before he had complained of occipital headache and mental fatigue, for which bromides had been freely given, and continued, in spite of the supervention of the above-mentioned symptoms, until a day or two before he was sent to New York. This was not told me, but I had to extract the information by repeated questioning, having been led to suspect bromism by the symptoms above stated and by the patient's foul breath. It was fully ten days before improvement began, as the result of tonic and stimulating treatment, but in three months the patient was cured, and has remained well.

As a result of giving too much bromides I have known the (self-limited) delirium of acute alcoholism transformed into or supplemented by a bromic delirium with some hallucinations, but characterized chiefly by the peculiar coated brownish tongue, with foul breath, very feeble cardiac action, and a typhous condition.

In 1879 I successfully treated a case of violent hallucinatory mania with typhous state, brought on by excessive quantities of bromides prescribed for "cerebral hyperæmia" by a physician who, after the patient had gone far away from him, ordered increased doses by telegraph.

In the last ten years I have seen two cases in which bromides given to allay the pain and restlessness of suppurative otitis produced symptoms strongly suggestive of intracranial inflammation or abscess. The second case, which occurred last year, narrowly escaped trephining. It is so instructive in many respects that I will relate it pretty fully. A man of about forty years of age, resident of a Western State, developed an acute attack of otitis media suppurativa. The disease seems to have run a very ordinary course, and in about ten days the discharge had almost ceased. But during this period the attending physician (the leading practitioner in that section) had begun giving bromide of sodium for the rather severe pain in the ear and behind it. As the local symptoms ceased, the patient began to get dull and irritable, and also weaker. Later he became semi-comatose, yet restless and somewhat delirious at night; his tongue became coated and foul, and his vital powers seemed fast failing. His speech was thick, and he occasionally complained of pain near the ear. No convulsive or paralytic phenomena appeared and no fever was noted except when brought to New York, when a slight rise of a degree or a degree and a half was observed; at no time, except on a single occasion, immediately after the journey, was a slow pulse observed; it was usually near one hundred. An able aurist, consulted by letter, expressed the opinion that there was intracranial inflammation and urged that the patient be brought to New York. There he saw him, in consultation with a prominent surgeon, and repeated his opinion. In consequence of this consultation, an exploratory operation was done on the mastoid process, and its cells were found healthy. This was four days before I saw him. The surgeon, fortunately, was one of those who want all possible light on a case of this sort before proceeding to a serious operation, so he asked me to see the patient. Owing to engagements, I could not go at once, and the patient's own physician, becoming impatient, called in a neurologist for whose knowledge and skill I have the highest regard. This gentleman said quite positively that there was an intracranial abscess, and advised immediate operation. I saw the patient the next day, when the wound in the mastoid was doing well and he was a little brighter. After hearing the whole history of the case and making a thorough examination, I was struck with the absence of any symptom positively pointing to cerebral lesion. Once only had a low pulse been observed—viz., 66 beats—and this was immediately after the journey. It had ranged from 75 to 90, and the temperature had been about 100°. On the other hand, the form of stupor, the peculiar delirium, the very low arterial tension, the coated tongue, and peculiarly foul breath led me to suspect bromism.

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* An exception may be made of cases of insanity and hysteria in which sexual excitement is prominent, when relief may be obtained from bromides given in full doses, with the addition of digitalis to prevent some of their depressing effects.

By close questioning of the patient's wife and of his physician, I brought out, what had been concealed in the history, the fact that large doses (at one time thirty grains every two hours) of bromide of sodium had been given almost up to the time of departure (some five or six days before my examination). He had probably taken between eight hundred and a thousand grains of bromide. I suggested the probability that the alarming symptoms had been thus produced; advised postponing the trephining, and giving digitalis, nux vomica, and caffeine freely, besides more food and some stimulants. In two days the patient was much better, and in two weeks went away nearly well. He has since regained his former good health. Here was a case in which a simple self-limited otitis had grafted upon it an entirely independent *disease* (I may say) simulating the most dangerous sequela of otitis.

Another condition in which the bromides are often injurious is that of traumatic neurosis, either of the simply neurasthenic or of the hysterical form. Page * was the first to suggest that many symptoms of this condition were aggravated, and even new symptoms added, through the depressing effects of bromides on the patients' nervous vitality and will. This warning I can heartily indorse, and I am surprised that one of the best recent writers † on so-called "railway spine" should have spoken slightingly of it. My experience has been that such cases do well on strychnine, while they grow worse while taking bromides (even if it makes them comfortable).

I might quote many other cases from my note-books in which the diagnosis of real disease was made difficult because a state of dangerous bromism had been produced by the reckless (or rather thoughtless) administration of bromides. I have seen one case in which death was directly due to excessive doses of bromide given to relieve paræsthesiæ in the head, which were supposed to indicate "cerebral hyperæmia."

In conclusion, I would urge you not to fall into the too common careless practice of telling patients to take "a little bromide" for nervous symptoms of various sorts, and especially not to give the salts in full doses except upon the clearest indications, and with a sharp lookout for bromism. Indeed, the experience of the last few years has strengthened me in an opinion I expressed more than twelve years ago,‡ viz.: "I consider epilepsy to be the only disease for the treatment of which we are justified in deliberately producing a degree of bromism."

Original Communications.

THE TREATMENT OF SIMPLE FRACTURE OF THE PATELLA BY WIRING.*

By CHARLES PHELPS, M. A., M. D.,
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I PRESENT here the result of my experience in wiring together the fragments in simple fractures of the patella. These cases are forty-two in number and extend over a period of little more than five years. I have waited till this time because, in my opinion, such collocation of cases is of value only when the number is large and when sufficient time has elapsed to demonstrate ultimate results. I have also thought the report of so large a number of cases might have some additional value as occurring in the practice of a single surgeon, and as therefore treated under presumably similar conditions and practically by the same methods. I do not present the results of the same operation as collected by other surgeons, because I wish this paper to contain nothing which I do not know of my own knowledge, and such deductions as in my opinion necessarily follow from the facts thus established. I shall not refer to the statistics of other methods of treatment except in a cursory manner, because they are readily accessible, and I believe so generally understood as to render comparative examination unnecessary. As this is not intended to be a controversial paper, I can thus better maintain the simplicity of my purpose.

I had intended to defer the publication of this matter to a somewhat later period, but an evidently increasing interest in the subject and, as it seems to me, some lack of general knowledge of the relative advantages and dangers of the operation, make it proper at the present time. From numerous publications as well as from occasional fragments of professional opinion which have come to me there seems to be, if the expression may be allowed, a prejudice against the operation, a skepticism in regard to its utility, an exaggerated idea of its danger, and a disposition to ascribe to it various unpleasant results which I have not observed in my personal experience. It certainly has not yet secured the approval of a very large number, perhaps the majority, of experienced and distinguished surgeons.

I have restricted this summary to simple fractures of the patella, and mainly to those of recent occurrence—just those cases in which I have heard it said the operation is especially objectionable or altogether unjustifiable. I have excluded compound fractures because it has so happened that I have seen but one in which other and fatal injuries did not preclude operation, as well as because in them the propriety of wiring is generally conceded. In compound fractures, moreover, the wiring of the fragments is often simply an incident rather than a formal operation, and the result is liable to be determined by various circumstances independent of this feature of the treatment. Such cases, therefore, may be relegated to the general category of fractures to be wired as other fragments would be, and I believe no question of practice is likely to arise.*

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* Injuries of the Spine, 2d ed., Philadelphia, 1885, p. 202.

† P. C. Knapp, Boston Med. and Surg. Journal, Nov. 8, 1888.

‡ The Abuse and Use of Bromides. Journal of Mental and Nervous Diseases, July, 1877; Opera Minora, p. 226 (see p. 235).

* Read before the Bellevue Hospital Alumni Association, April 8, 1890.

I have rejected but one case of simple fracture as unfit for operation. This was of a woman suffering from an advanced stage of organic disease of the heart, liver, and kidneys. In one instance operation was refused, and in two others, where the conditions were unusually favorable, I unfortunately relied upon the plaster apparatus. All other cases occurring to me in the last five years I have wired without regard to age, habits, or constitutional condition. It will be seen that their character has been varied though the result has been pretty fairly uniform.

Before presenting these cases in detail I propose to describe the manner of operation with perhaps unnecessary minuteness. So much stress has been laid upon the supposed danger of what has been termed, I think somewhat unhappily, the open method of treatment, and realizing how largely safety depends upon the care with which it is conducted, I have thought such a course to be pardonable and proper. I may say here that I believe safety, success, and whatever conclusions are to be properly deduced from this operative method of treatment, are all absolutely dependent upon the most scrupulous regard for aseptic laws at every step. It is, of course, a justifiable assumption that all operations at the present epoch are done with anxious and conscientious aseptic care; but when the great cavities of the body or the larger joints are in question it is not enough that confession of faith be made, but works should be wrought, and in some degree described. Second only to this perfection of aseptic detail in importance is the utmost delicacy in the treatment of the open joint. Upon both together the success or failure, the safety or danger, of the operation may easily turn. I shall be pardoned, therefore, for describing an operative procedure with which so many surgeons are already familiar. A single description will suffice for all the cases, since many repetitions have suggested no serious modifications of *technique* as I first saw it performed in 1884. There may be other, and possibly even better, ways of doing it, but this has at least answered the purpose of safety.

The preliminary treatment is simple, and subject to such modifications as the condition of the knee may suggest. There are no constitutional indications which are peculiar. Locally it has consisted in immobilizing the limb upon a short posterior splint, and applying the ice-cap, cold bandages (wet), poultices, or warm fomentations under oiled silk, according to the exigencies of particular cases. The ice-cap should be applied only in exceptional instances, where the knee is hot and tender and liable to considerable inflammation from laceration of the soft parts, and then only for three or four days; never when the vitality of the tissues has been already much diminished by local injury. If there is little inflammatory action, the wet bandage may be used from the beginning. If there is much contusion, poultices or warm fomentations are required. In all cases a simple dry roller should replace the other applications as soon as practicable, and should be worn for at least one or two days before operation in order that the condition of the skin may be better suited for primary union. Should the joint be much distended with blood, aspiration is a facile means of relief. There is never necessity or advantage in attempting to approximate the fragments where operation is to be an early resort. It sometimes happens that a periostitis of the adjacent extremities of the femur and tibia may delay interference for a period of weeks, and in such case, if separation be considerable, an attempt at approximation might be of service.

The time selected for operation will be seen to have varied in most cases from seven to fourteen days. Extraneous circumstances may require operation on the first day, or complications may delay it till the case can no longer be considered recent, as in Case XXXVIII of my series. In general, the greater the laceration of the soft parts, so far as it can be determined by external manipulation, the longer the advisable delay. The probable trouble to be incurred in the management of the superficial wound will thus be proportionately diminished. If there has been much contusion, and consequent lessened vitality of the tissues, early operation, even with proper antiseptic precautions, will be followed by superficial suppuration. So far as muscular contraction and consequent retraction of the fragments is concerned, no increased difficulty in obtaining coaptation will be encountered for at least three or four weeks. If it could be made certain that much comminution existed, it would be better to wait for that length of time to allow the consolidation of small fragments; but ordinarily such a delay would be merely waste of the patient's time. In a majority of cases, I think, not far from the tenth day will be found the most favorable time for interference. The condition of the limb, however, must guide the judgment rather than the number of days elapsed.

No special method of operation is essential; it is only necessary that it be aseptic and as simple as possible. Any method of operation, or manner of operating, which fails in these particulars is likely to end in disaster. To obtain the results which can only justify the operation and insure the safety of the patient, carefulness in detail, gentleness in manipulation, and intelligent watchfulness in subsequent treatment must be unremittingly maintained.

In regard to asepsis it is well to recollect that asepsis is not always aseptic. In my own practice I thought I was doing aseptic work for a long time before I began to do it at all; and even now I have no doubt I sometimes fail. I know no absolute safety except in personal supervision of details, which are habitually and with apparent propriety left to an assistant's care. I have certainly used improperly prepared catgut and septic drainage-tubes. I have been told I have received from the hands of competent and zealous, though sometimes careless, hospital assistants instruments which have gained whatever aseptic virtues they possessed by not more than a few seconds' immersion in the aseptic solution. Every surgeon must have met with similar mishaps, which are nevertheless always avoidable. I may mention some points I consider specially important in the aseptic management of this operation. The whole limb should be thoroughly prepared from the groin to the toes, inclusive of the latter, and the foot should afterward be carefully wrapped in towels saturated with a hyd. perchlor. sol. (1 to 1,000) and firmly secured. The same solution (1 to 1,000) should be used for all purposes about the limb, including irrigation, up to the time of opening into the joint. Subsequent irrigation, which should be gentle and as nearly continuous as possible, may be of any strength from 1 to 3,000 to 1 to 10,000. Irrigation should be continued until the operation is entirely completed and the wound covered by the initial layer of its dressing.

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* In the one case of compound fracture in which I have operated the patient died. This result, however, which was due to septicæmia, was quite independent of the operation, and due to causes unnecessary to specify at the present time.

The incision should always follow the sulcus made by the separation of the fragments, which is ordinarily nearly, or quite, transverse in direction. In two of my cases only it was slightly oblique. The incision should primarily extend across the knee, nearly from one transverse ligament to the other, and down to the anterior surface of the patella; secondarily it should lay the joint freely open as far as the laceration of the synovial membrane extends on either side, or, better still, to the full extent of the superficial wound already made. I have not found that it is practicable to avoid opening into the joint, as suggested by Van der Meulin, nor do I think it desirable. Free opening of the joint cavity makes its examination, cleansing, and drainage more perfect, and experience shows that there are no compensatory dangers. I then carry a drainage-tube through the outer aspect of the joint where it is most dependent by means of a trocar and cannula made large enough for its passage. This expedient, which I first adopted for conveying a drainage-tube through the thick posterior muscles of the thigh, after wiring ununited fracture of the femur, much facilitates what is sometimes an annoying detail in operation.

If the operation be done later than the first week, no clamp or ligature is likely to be required. The cavity of the joint is usually filled with blood and coagula, which the continued irrigation will incidentally remove. No direct effort should be made to this end, for it is essential that the parts should be disturbed as little as possible. The fragments will be found to be separated by coagula and shreds of fibrous tissue with which they are interwoven and which hang down between the opposing bony surfaces, and more or less effectually prevent their contact. With a single exception I have never failed to find this intervening fibrous tissue, whether as scattered shreds or fibers or as thick and continuous sheets of membrane, either in my own cases or in those upon which I have had the pleasure of seeing other gentlemen operate. The exceptional instance was in the only case in which I have had a refracture. I have reason to believe that this condition does not exist in such cases, nor in the rare instances in which bony union occurs without operation. This fibrous tissue with the entangled coagula must be detached from the fractured surfaces as far as their upper margin, and pushed back upon the upper surface of either fragment. This can be conveniently done with a Hebra's scoop. The clean bony surfaces can thus be brought in direct contact, which is the first condition of consolidation.

The fragments are then to be drilled and brought together by silver wire. I use wire of the largest size, and made of absolutely pure silver. Wire of this size and quality is less likely to break or to cut through the bone if strong traction has to be made, and provokes no subsequent irritation when its cut extremity is turned down and forced into the interosseous sulcus beneath the fibrous capsule. The drill should be but little larger than the wire. I have not used catgut in place of the silver wire, because I can see no advantage in the change, and it so often happens that coaptation can only be effected by considerable traction for which the gut has insufficient strength. A single wire will ordinarily suffice to hold the fragments in position. I have only twice found it expedient to use two.

I have seen it stated during the past year * that it is essential "to introduce the wire so that it will not enter the cavity of the joint." On the contrary, I have often found advantage in taking care that it does pass through the joint. It is often the case that much better apposition can be effected by passing the wire vertically through each fragment than obliquely through the fractured surfaces, and, if a slot be cut in the cartilage of incrustation on the under surface of each fragment for its reception, it will be covered in and cause no subsequent trouble. The second conclusion of the same writer—that the wire should be removed as soon as osseous union has occurred—is equally apart from my observations. I have never yet found occasion to remove a wire at any time after operation. In one of my cases it was removed by another surgeon, but he has since told me the removal was incidental and, so far as he knew, unnecessary.

After as perfect apposition has been attained as possible, the wire is to be twisted firmly, cut off rather short, turned over smoothly, and forced into the interosseous sulcus. Unless the bone is very soft, the wire can be twisted so firmly as to materially add to the closeness of apposition. If the fracture is much comminuted, the smaller fragments will be sufficiently maintained in position by the capsule. It is impossible to wire them. If they are so far detached from the soft parts as to make their vitality a matter of doubt, they should be removed altogether, and the hiatus will be filled with new bone. It will be seen in the cases to follow that osseous union is attainable where a considerable portion of the fractured surfaces fail of contact.

The next step in the operation I consider of paramount importance. This is the closure of the joint cavity and its complete isolation from the superficial wound. It is to be effected by a continuous or interrupted suture of fine catgut, uniting the capsule over the patella and the deep fascia and synovial membrane on either side. This should be done with the utmost thoroughness and precision. In a certain number of cases, where the tissues are much lacerated and contused, superficial suppuration will occur in spite of every possible precaution, and in such event this

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* N. Y. Med. Jour., August 17, 1889.

deep line of suture will absolutely prevent the entrance of either pus or septic matter into the joint, and will practically eliminate one of the possible dangers of the operation. Finally, the superficial wound is to be closed by a continuous catgut suture. I formerly made superficial drainage by a rubber tube; but in those cases (the majority) in which primary union occurred there was still left a canal to be closed by granulation. I now use a few horse-hairs, not more than four or five, which may usually be removed at the first subsequent dressing.

The operation completed, the limb is to be dressed antiseptically from the groin downward, including the foot, the knee is put upon a posterior splint, and the whole extremity confined in a wire cage. Plaster apparatus is unnecessary and obstructive to ulterior dressings and examination. I am in the habit of making the first redressing on the third or fourth day, in order to remove the drains and to ascertain whether the antiseptics have caused cutaneous irritation or inflammation. There has been only one case in which I thought it prudent to retain the drainage-tube longer in the joint (ten days), and in that instance it proved to be unnecessary. The horse-hair will oftener require retention to a later period, but only in the cases previously mentioned, in which contusion and laceration of the soft parts lead to superficial inflammation. One additional dressing will be sufficient in the most favorable cases.

I have been somewhat in doubt as to how long it is desirable to maintain the immobility of the knee. At the present time I am inclined to advise that the posterior splint be retained till the end of the third week, and that the patient be kept in bed for four weeks after the operation. This, however, is to be the limit of time. I am satisfied that a longer quiescence is not conducive to the best results. If the patient's convenience demands, he can walk at a much earlier period. Many of them have walked easily without assistance in a little more than half that time, and without subsequent disadvantage. The question of passive and forcible motion I shall reserve for later consideration.

The time required for operation is from twenty to sixty minutes, and will much depend upon having the proper instruments at hand. Mr. W. F. Ford has arranged an operating case which very well suits the purpose. The greatest liability to delay will occur in drilling the fragments and in passing the wire through the small openings made by the drill. No drill that I have seen is quite satisfactory, but the one with wheels and ratchets is, I think, the most convenient.

The condensed histories which follow are fairly complete in all essential particulars. Some of those earliest recorded, however, after the manner of histories in general, are occasionally wanting in details, which I much regret to lose, while very full in information concerning operation and treatment for which I have no use and have eliminated. The final observations have been secured in every case possible, often after much labor and difficulty, in order to verify their early history as well as to determine their definitive results. Many (twenty) of their subjects it has been my pleasure to introduce to you this evening, and you are therefore in a position to judge of the propriety of my estimate of their present condition.

In this series of cases, with a single exception, extension of the knee remained unimpaired, and needs no further mention. In the exceptional case (XVIII) not even moderate approximation of the fragments could be made, so that osseous union failed, and extension is naturally imperfect. Intervention of the anterior aponeurotic fibers between the fragments occurred in all cases, with a single exception (Case XXVIII), and, though unmentioned, this fact may be always assumed. The patient's own opinion of the result will also be omitted in each case, because it is usually optimistic when no suit for damages is in view. He is likely to consider any injured limb as good as it was before an accident, even though he walks on a wooden leg.

Case I.—Male, aged forty-four, cabinet-maker, habits intemperate, and of poor physique. On November 1, 1884, sustained a simple transverse fracture of right patella, near the middle, from a fall. Violence indirect.

Operation, November 13th, followed by primary union of superficial wound and firm union of patella. All dressings removed December 1st.

Last Observation, April 8, 1890.—Bony union of patella; cicatrix soft and flexible. Patella and cicatrix both freely movable in all directions. Flexion of knee complete.

Case II.—Same patient. In trying to rise after first fracture, fell again and fractured opposite patella.

Operation, November 20th.—Fracture simple and slightly oblique; primary union of superficial wound, and firm union of patella. All dressings removed December 17th, and passive motion begun.

Last Observation, April 8, 1890.—Bony union of patella and free mobility of both patella and cicatrix. Flexion of knee only a shade less complete than that of the other. Functional result perfect in both knees. Walks and stands all day, and goes up and down stairs without difficulty or unusual fatigue. Kneels properly. Neither wire can be readily felt.

Case III.—Male, aged thirty-six, laborer, physique good. On December 3, 1884, sustained transverse fracture of right patella, through the middle, from a fall. Violence indirect.

Operation, December 10th, followed by partial primary union of superficial wound and bony union of patella at time of discharge, some weeks later. No subsequent observation was obtained. Previous fracture of opposite patella, with ligamentous union.

Case IV.—Male, aged twenty-nine, laborer, habits intemperate, physique good. On February 26, 1885, sustained simple transverse fracture of left patella. Violence indirect, from a fall while intoxicated.

Operation, March 8, 1885, followed by firm union of patella. Condition of wound not noted in the history.

Last Observation, May 4, 1885, when he eloped from the hospital. Osseous union of patella. Flexion still limited—about 45°. Walked without cane or other support.

Case V.—Male, aged thirty-five, butler, habits intemperate, physique good. On May 20, 1885, sustained simple transverse fracture of the right patella a little below the middle from direct violence—blow from a policeman's club. Separation of fragments three quarters of an inch.

Operation, May 27, 1885, followed by primary union of superficial wound and firm union of patella. Walked in four weeks; flexion of knee, 60°.

November 26, 1885.—Osseous union of patella confirmed; flexion, 90°.

Last Observation, April 6, 1890.—Flexion practically complete; patella solid; lateral motion free; kneels well; use of joint perfect. When fatigued, feels some pain about muscular insertions.

Case VI.—Male, aged thirty-eight, policeman, habits and physique good. On May 30, 1885, sustained transverse fracture of right patella, small upper fragment, with rupture of quadriceps tendon. Violence direct—struck his knee against elevated railway pillar.

Operation, June, 1885, followed by some superficial suppuration, and firm union of patella. On July 6th walked on crutches; went on duty in August.

Last Observation, April 8, 1890.—Cicatrix freely movable in every direction; full flexion of knee; firm bony union of patella; joint perfect in all respects.

Case VII.—Male, aged thirty-six, truckman, habits temperate, physique good. On July 14, 1885, sustained simple transverse fracture of the right patella below the middle from a fall down stairs.

Operation, July 16, 1885.—No effusion into joint; no superficial inflammation, no clot, but only fibrous capsule between the fragments; fibrous curtain hanging over each fractured surface; slight overriding after wiring.

August 12th.—Complete closure and union of superficial wound; passive motion begun August 22d; went to work in October.

Last Observation, April 8, 1890.—Cicatrix nearly obliterated; osseous union solid; flexion complete; kneels properly. Has been a fireman four years (Hoboken Fire Department).

Case VIII.—Male, aged forty, physique bad, brushmaker, habits intemperate. On August 22, 1885, sustained a transverse fracture of the right patella through the middle from direct violence—struck on the knee with a club; did not fall.

Operation, September 2, 1885.—Immediate union of patella firm; some superficial inflammation.

Last Observation, October 28, 1889.—Cicatrix freely movable; flexion nearly complete; kneels properly; osseous union strong; joint practically perfect.

Case IX.—Male, aged thirty-two, truckman, habits temperate, physique good. On September 3, 1885, sustained a transverse fracture of the left patella, below the middle, by indirect violence—fell from his truck and felt his knee give way under him before he struck the ground.

Operation, September 13, 1885.—Primary union of superficial wound and immediate firm union of patella. Walked with the aid of a chair in two weeks.

October 15th.—Discharged; flexion, 90°.

November 1st.—Drove his truck. Two weeks later he slipped again from his truck and bent his knee forcibly, after which he rapidly regained full use of the joint.

Last Observation, April 8, 1890.—Firm osseous union; cicatrix and patella both freely movable; flexion complete; kneels without difficulty.

Case X.—Male, aged forty, longshoreman, physique good, had previous fracture of opposite patella with bony union; treated by adhesive plaster and posterior splint without plaster apparatus. On September 19, 1885, sustained simple transverse fracture of left patella from direct violence—struck on the knee by a piece of iron.

Operation, September 26, 1885.—Superficial wound healed in thirteen days. Was in bed three weeks. Firm union of patella. Discharged October 17th.

Last Observation, April 8, 1890.—Free lateral movement and solid osseous union of the patella. Flexion nearly complete. Cicatrix movable in every direction. Kneels naturally. Suffers no inconvenience in the use of his knee, except in going up long flights of stairs.

Case XI.—Male, aged twenty-five, sailor, strong and muscular physique. On April 29, 1886, sustained a simple transverse fracture of the left patella in the lower third—knocked down by a sea aboard ship and swept along the deck; great contusion and ecchymosis of the knee and limb.

Operation, May 10, 1886.—Capsule and soft parts greatly lacerated, and the fragments widely separated. Apposition was very perfectly obtained. Much superficial inflammation and suppuration followed. Wound healed by granulation. Highest temperature, 102·4°. Cicatrization complete at the end of May.

Last Observation, November, 1886.—Patella united by bone, and freely movable laterally. Cicatrix becoming flexible; flexion nearly complete; perfect use of joint, and following his vocation of ordinary seaman.

Case XII.—Female, aged thirty-three, housekeeper, habits and physique good. On May 29, 1886, sustained a simple transverse fracture of the right patella above the middle; separation three quarters of an inch; fell down stairs.

Operation, June 12, 1886, followed by much suppuration and cutaneous inflammation, caused by poisoning from bichloride-of mercury gauze; this led to exposure of anterior surface of patella, which became recovered without interference or perceptible exfoliation.

July 20th.—Walked with cane.

27th.—Discharged; firm union of patella; superficial wound healed; flexion, 45°.

Last Observation, April 2, 1890.—Firm osseous union; cicatrix freely movable, except at one minute point. Patella laterally movable upon the condyles. Flexion nearly complete. Function of joint perfect. Wire felt just below the skin, causing no irritation of the tissues, but some soreness in going up stairs.

Case XIII.—Male, aged forty-two, veterinary dentist, had suffered amputation through the right knee joint, some years previously, for compound fracture. Habits intemperate. On May 14, 1886, he sustained a simple oblique fracture of the left patella, above the middle, from indirect violence, simply turning upon his heel without falling.

Operation, May 24, 1886.—No infiltration of soft parts with blood, and fractured surface of the upper and much smaller fragment was covered with a smooth, condensed tissue, looking like cartilage of incrustation. The lower fragment was of normal density, while the upper was excessively hard, and caused the breakage of two drill points, which were left in the bone. Went home on June 7th. Primary union of superficial wound; patella soon became firmly united.

August 13, 1886.—Firm bony union and free lateral movement of the patella. Flexion complete. Cicatrix freely movable. Walks as well and uses his knee in every way as well as before the fracture, notwithstanding his artificial right leg. (See Case XXXIV.)

Case XIV.—Female, aged forty-eight, housekeeper. Habits intemperate. Physique good. On July 16, 1886, sustained a simple transverse fracture of the right patella from indirect violence—a fall.

Operation, July 28, 1886.—Superficial inflammation and suppuration from poisoning by bichloride-of-mercury gauze, followed by bare bone upon anterior surface of the patella; bone recovered, and wound healed without interference. Walked on August 28th. Union of patella firm. In three months, flexion 90°.

Last Observation, April 8, 1890.—Cicatrix and patella freely movable. Wire felt under the skin, but causing no irritation. Osseous union firm. Flexion not much beyond 90°; "considered it sufficient, and the result perfect as it is." The other patella was fractured three years previously; treated with plaster and united by short ligament. This result the patient pronounces unsatisfactory.

Case XV.—Male, aged forty, carpenter, physique spare and muscular; has a tobacco heart. On October 13, 1886, sustained a transverse fracture of the left patella, a little below the middle, from indirect violence—made a violent effort to save himself from falling, and felt something give way before he dropped to the ground. Condition of considerable shock.

Operation, October 22, 1886.—Separation of fragments one inch, much effusion into the joint, and much involution of the capsule.

November 4th.—Superficial wound entirely healed and passive motion begun.

20th.—Walked with a cane, and flexion of joint increasing daily.

December 8th.—Firm osseous union and free lateral movement of the patella; flexion beyond 90°. No later observation.

Case XVI.—Male, aged thirty-three, carpet-layer; habits and physique good. On January 27, 1887, sustained a transverse fracture of the right patella, below the middle, from a fall of fifteen feet upon the frozen ground. Separation of fragments half an inch.

Operation, February 11, 1887, followed by primary union of superficial wound. All dressings removed on February 28th. Highest temperature, 100°.

April 1st.—Flexion, 10°.

September 10th.—Flexion, 90°. Became complete in November; firm union of the patella.

Last Observation, April 8, 1890.—Cicatrix nearly obliterated and freely movable. Patella movable and united by bone. Flexion practically complete. Kneels perfectly, and works at his occupation of carpet-laying with his previous facility.

Cases XVII, XVIII.—Female, aged twenty-four, seamstress, in good health, but of corpulent habit. August, 1884, sustained a transverse fracture of the right patella from indirect violence—fell down stairs, and, in attempting to rise the third time, "felt something give way in her right knee." In June, 1885, in going down stairs, she "felt something push out in her left knee." She did not fall, but walked two or three steps, and was then carried home and was found to have sustained a transverse fracture of the other (left) patella. The original fracture at this time, after treatment by the plaster apparatus, was still ununited and the fragments widely separated. The second fracture was also treated in plaster.

First Operation, May 3, 1887 (left patella).—At this time the patient walked with both knees bandaged and only with great difficulty. Fragments separated one inch; lower one small and soft. No union had taken place. Coaptation was effected without great difficulty.

May 20, 1887.—The superficial wound of the first operation having healed by primary union, the right patella was subjected to operation. The incision was cruciform in this instance on account of the obesity of the patient. The fragments were separated three inches, and connected only by thickened synovial membrane. The lower fragment was split vertically into two parts—the inner one very small and firmly attached to the tibia; the outer one larger and movable. The upper fragment, which had been split horizontally, was consolidated. The wire was passed from the upper fragment through the outer segment of the lower and approximation made as far as possible, but there was still an interval of about an inch. The wire being found in this intervening space to lie upon the femoral condyle, it was removed and three sections of silk-worm gut substituted. In closing the wound there was no means of isolating the joint cavity. All dressings were removed from the left knee on June 1st, and from the right knee, in which superficial suppuration had continued from May 25th to June 15th, on July 31st.

I visited the patient in the country on October 27, 1888, and removed from a small abscess cavity over the right patella the three pieces of silk-worm gut. The left patella was then united by bone and freely movable.

Last Observation, March 18, 1890.—Left patella united by bone. Cicatrix freely movable. Flexion complete. Perfect use of joint. Right patella not retracted from the position in which it had been found at time of operation. Joint ankylosed in a nearly straight position, where she had been advised to leave it without attempt at motion.

Case XIX.—Male, aged sixty-six, no occupation, suffering from phthisis pulmonalis. Physique bad; habits good. On July 27, 1887, sustained a transverse fracture of the right patella by a fall from a street-car. Thinks he struck his knee. Much swelling and ecchymosis.

Operation, August 3, 1887.—Separation of fragments one inch, and a large amount of blood-clot between them. Primary union of superficial wound. On August 11th wire cage removed, and on August 17th wound entirely healed. Temperature did not exceed 100°. Patella firmly united, and he walked well without the aid of a cane when discharged on September 18th. Flexion, 20°.

December 1st.—Osseous union, and flexion nearly 90° and increasing. Died of phthisis pulmonalis in April, 1888, at Mt. Sinai Hospital. The fact of his having had fracture of the patella did not attract attention, and consequently no note of his condition was made, and no additional information is obtainable.

Case XX.—Female, aged thirty, dressmaker; physique fair. On September 28, 1887, sustained a transverse fracture of the left patella by a fall down stairs, in which the left knee struck against the stair-railing. Walked two blocks with a posterior splint and was then brought to hospital by ambulance.

Operation, October 11, 1887.—Separation of fragments three fourths of an inch. Primary union of superficial wound.

November 15th.—All splints removed.

28th.—Firm union of patella, which was in my mind unquestionably osseous. Flexion, 40°. No later observation.

Case XXI.—Male, aged eighty-three, watchman; spare physique and enfeebled by age. This history is condensed from the notes of Dr. W. C. Braisted, of Detroit, late house surgeon of the fourth surgical division of Bellevue Hospital, who made the autopsy and the sketches of the patella from which the subjoined drawings have been taken. I am greatly indebted to him for his assistance in the operation and care of the patient during life, and for his very complete and valuable post-mortem examination.

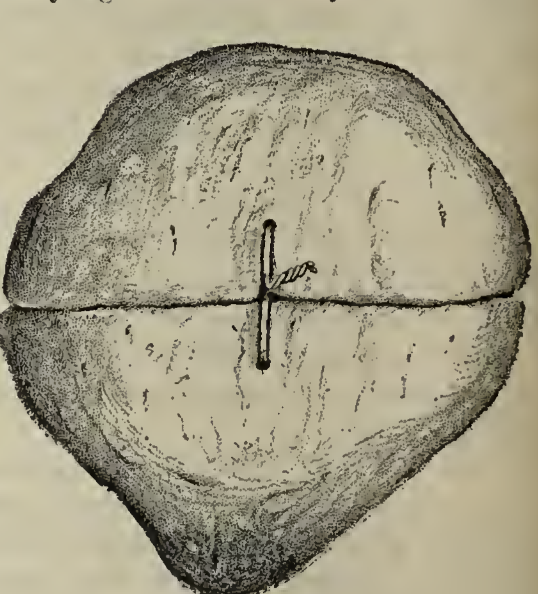

Fig. 1.

October 13, 1887.—The patient sustained a transverse fracture of the left patella above the middle. He had fallen a considerable distance (ten to fifteen feet) and alighted upon his feet. Upon admission, both ankles were markedly contused and the knee much swollen.

Operation, October 24, 1887.—Incision made from condyle to condyle. The capsule was torn completely across, and its external portion was infolded between the fragments of the bone. The soft parts and joint cavity were filled with coagula. . The wire was carried through the posterior surface of both fragments and the cartilage grooved. The fractured surfaces, which were separated half an inch, were brought into exact apposition. Two drainage-tubes were used—one through the joint and the other through the whole length of the superficial wound. Time of operation, thirty-three minutes. The patient reacted well from the operation, but four days later suffered from general bronchitis with transient delirium, from which he very soon recovered. He sat up on November 11th, his splints having been removed, and his wound was entirely healed save a few granulations at one of the drainage exits. During the following week he contracted a second attack of bronchitis, from exposure to an open window, of which he died November 21st.

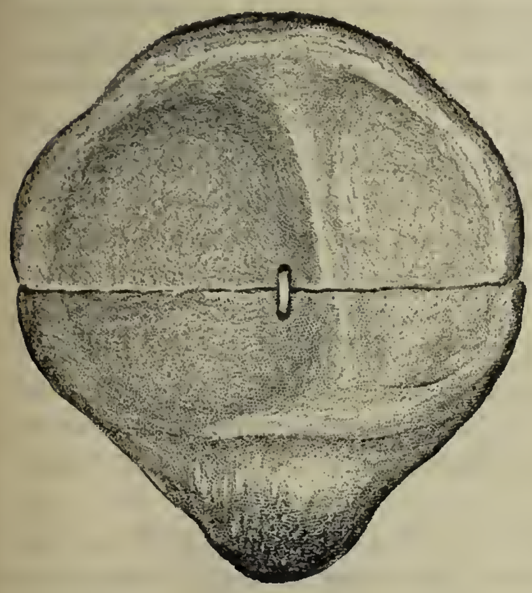

FIG. 2.

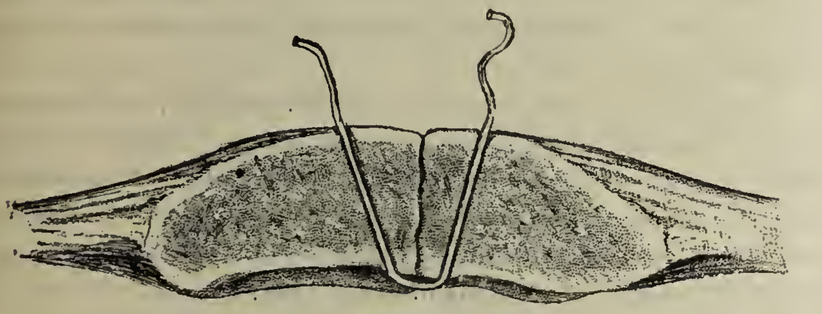

FIG. 3.

Autopsy.—"The tissues over the affected knee were found to be perfectly firm and healthy. The capsule was strong and somewhat thickened; on removing this, the bone was found to be firmly united, the line of union on the anterior surface being barely discernible by a slight depression, while on the posterior surface it was more marked and distinct. On removing the bone, it was found to be a solid mass, and resisted strong strain and traction, but was broken by greater and more continued force, the fragments being held together by the anterior capsule, as shown in Sketch 3. The fractured surfaces showed no fibrous connection, but were rough, granular, and vascular," as shown in Sketch 4.

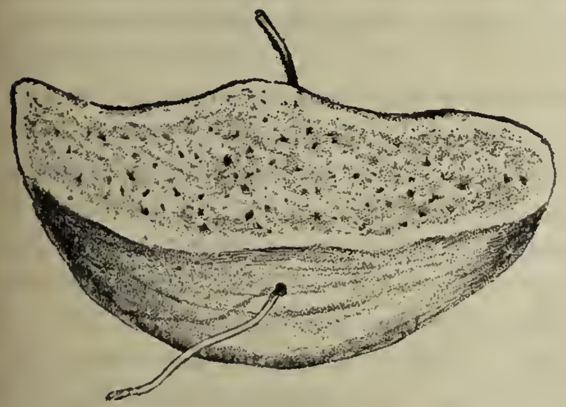

FIG. 4.

An examination of the lungs indicated the cause of death to have been a severe and general bronchitis, extending from the trachea to the capillary tubes. The other organs were healthy.

CASE XXII.—Male, aged forty-four, peddler; physique only fair. On November 7, 1887, he sustained a transverse fracture of the left patella by a fall in the street, striking upon his left knee.

Operation, November 18, 1887.—Fracture through the middle of the bone. Dry dressing only applied. Primary union of superficial wound perfect on the tenth day. Highest temperature, 99·4°.

December 15th.—Walked with crutches.

27th.—Discharged. Firm union of patella. Flexion, 45°.

Last Observation, July, 1888.—Bony union of patella. Cicatrix free. Flexion beyond 90°. The patient is pursuing his occupation as street peddler.

CASE XXIII.—Male, aged forty, iceman; habits and physique good. On November 3, 1887, he sustained a transverse fracture of left patella through the middle. Felt his knee-cap snap while drawing a piece of ice along a platform. His knee became slightly flexed, his foot strongly everted, and he fell. There was no pain or shock.

Operation, November 15, 1887.—Fragments separated an inch. Joint distended with blood and coagula. Primary union of superficial wound. Highest temperature, 100·1°.

On December 15th the patient walked with crutches, on the 18th with cane, and on the 25th without support. Discharged in January with firm union of patella, and flexion 50°. He went to work on March 1st.

Last Observation, April 8, 1890.—Cicatrix and patella freely movable. Flexion, 135°. Kneels properly. Osseous union.

CASE XXIV.—Male, aged thirty-two, truckman; habits and physique good. On November 15, 1887, he sustained transverse fracture of the right patella, below the middle, by indirect violence. Slipped, and in trying to recover himself fractured the bone.

Operation, November 25, 1887.—Separation of fragments three quarters of an inch. Primary union of superficial wound. Walked with a cane on December 21st, and was discharged on December 27th. Flexion. 30°. Union of patella firm. Reexamined January 24, 1888, he had used no passive motion and was wearing a rubber knee-cap. He was advised to discard the knee-cap and to exercise the joint.

Last Observations, December 16, 1888, and November 17, 1889.—Firm osseous union. Flexion, 90°. Limb has full strength for all purposes. Perfect functional result in all respects except in kneeling, which is done awkwardly. Cicatrix and patella freely movable. Manner of kneeling improved from December, 1888, to November, 1889.

April 8, 1890.—Flexion increased to 135°.

CASE XXV.—Female, aged thirty-nine, dressmaker; habits and physique good. On January 16, 1888, sustained a transverse fracture of the left patella through the middle by indirect violence. Getting up quickly from a sitting position, she took two or three steps and fell as she felt her limb giving way beneath her.

Operation, January 27, 1888.—Primary union of superficial wound. Highest temperature, 100°. Discharged February 13th, wearing posterior splint. Walked with a cane in five weeks from the time of the accident. Was content with very moderate flexion for six months.

November 1, 1888.—Firm osseous union; flexion beyond 90°; functional result perfect; dances polkas and waltzes.

Last Observation, April 8, 1890.—Cicatrix almost entirely obliterated and freely movable; lateral movement of the patella perfect; flexion, 135°.

CASES XXVI, XXVII.—Male, fifty-four, sailor; habits intemperate, physique good.

Previous History.—On February 19, 1871, he fell down a stairway and fractured his right patella by direct violence. The knee was so much swollen and contused that apparatus was not employed till thirteen weeks afterward; then "plaster and buckles" were applied at the Brooklyn City Hospital and retained seven weeks, and the limb was immobilized in a leather splint for two weeks longer — twenty-two weeks altogether. Result, non-union and an inch and a half separation of fragments. About two weeks after removing the leather splint he was knocked down by a wagon and the separation increased to two inches. He was then treated for seven weeks at Bellevue Hospital and the separation reduced to one inch. Later it varied from two to two inches and a half.

On January 30, 1888, he sustained a transverse fracture of the same (right) patella by indirect violence. He slipped upon an icy sidewalk and heard the bone snap before falling. Great pain and swelling followed.

Operation, February 10, 1888.—The fracture was through the lower one of the old and ununited fragments, and the capsule was infolded. Strong and old interarticular adhesions shut off the seat of recent fracture from the old, forming a double joint cavity. The fragments were easily brought in complete apposition. On February 13th there were a few drops of pus in the superficial wound, February 17th the wound was healed for its inner two thirds, and on February 25th it was closed entirely.

March 23d.—He was discharged from the hospital at his own request with apparently firm union, and flexion of about 10°. In April the separation between the fragments of the old fracture had increased.

May 10, 1888.—While intoxicated he was thrown violently from the platform of a train-car while rounding a corner and refractured the patella at the site of recent fracture, tearing open the cicatrix, which was still adherent.

Operation on the Same Day, May 10th.—The wire was found unbroken but torn out of the lower fragment. The line of refracture was osseous, the bone was apparently healthy, and the upper fragment was fastened to the femur by recent adhesions. No portion of the capsule intervened, but blood-clots separated the fragments. The drainage trocar could not be carried through the joint on account of recent adhesions, and the superficial incision was extended on either side to drain the joint laterally.

May 25th.—The superficial wound was entirely healed.

June 9th.—He was discharged from the hospital at his own request. It was thought prudent, in view of all the circumstances, including his habits, that he should wear a short knee-splint of silicate of soda, which was removed later on his return to the hospital. In the following September osseous union was found to be firm and undoubted; the amount of flexion does not seem to have been noted, but since learned to have been 90°.

May 22, 1889.—He sustained a fourth fracture of the same patella at a point below those already described, and at a subsequent period came under the care of Dr. Robert Abbe, who informs me that the previous union had remained solid and undisturbed. I understand that he had no doubt of its osseous character. Dr. Abbe wired the fourth fracture, and I am indebted to him for the opportunity of recently examining the patient, and again on April 8th. The union resulting from his operation, as well as that from my own, is, to my mind, unquestionably by bone.

Case XXVIII.—Female, aged thirty-five, domestic; physique good. On April 12, 1888, sustained a transverse fracture of the right patella below the middle by indirect violence—fell down stairs and bent her knee under her.

Operation, April 25, 1888.—Lower fragment tilted directly upward. Capsule adherent closely to each fractured surface. Dressed with hyd. perchlor. gauze (1 to 1,000). Perfect apposition effected by the wire. At the first dressing, April 28th, it was found that cutaneous inflammation of the whole limb, from the ankle nearly to the hip, had been excited by the hyd. perchlor. dressing, and that bullæ had formed along the margin of the strip of iodoform gauze covering the incision. Dressed with carbolized gauze. The second dressing was made with boric acid and dry gauze and irritation subsided, except over the knee, where the bullæ persisted with purulent discharge. Wound suppurated, and on May 29th there was still some pus from two openings—one in the line of incision and one just above it. These openings were found to lead to exposed bone. The anterior surface of the patella was afterward scraped and the wire incidentally removed, though causing no trouble. Union was ascertained to be by bone. She had no further exfoliation, and was discharged from the hospital after the wound had healed. Flexion, 45°.

Last Observation, February 7, 1890, while under the care of Dr. Ballou for fracture of the other patella. Firm osseous union of primary fracture; patella freely movable laterally; cicatrix non-adherent; flexion beyond 90°.

Case XXIX.—Male, aged twenty-five, truckman; habits and physique good. On June 27, 1888, sustained transverse fracture of the left patella through the middle from indirect violence—fell down and could not get up.

Operation, July 2, 1888.—Crepitus and very little separation of the fragments, but the capsule was in its usual position between them; primary union of superficial wound. In October following, union of patella was found to be osseous, flexion 90°, and the limb strong.

Last Observation, February 10, 1890.—Cicatrix freely movable; patella naturally movable laterally, and osseous union undoubted; flexion, 135°.

Case XXX.—Male, aged forty-eight, peddler; habits intemperate; general condition that of a tramp. On October 24, 1888, he sustained a transverse fracture of the left patella below the middle from a fall, the circumstances of which he did not remember. The right leg had been amputated through the middle and lower thirds in July, 1884.

Operation, November 7, 1888.—Primary union of the superficial wound, but a canal left by a large drainage-tube was not entirely closed till December 6th. As he made little effort to regain flexion, on February 16th the knee was forcibly flexed under ether to about 50°. He eloped from the hospital March 11, 1889, having flexion about 75°.

Last Observation, November, 1889.—Firm osseous union and lateral mobility of the patella; freely movable cicatrix, and flexion past 90°.

Case XXXI.—Female, aged fifty-four, housekeeper, from a malarial district in the country; habits good but mentally depressed, and general condition somewhat impaired by nursing a recently deceased daughter; nutrition good. On October 14, 1888, sustained a transverse fracture through the middle of the left patella from indirect violence. In walking, her leg turned under her. She felt a snap and then fell.

Operation, November 7, 1888.—During the first week (November 11th) she had a chill and high temperature marking the invasion of a severe attack of typho-malarial fever, which continued for six weeks. In this time the joint remained unaffected and the patella became firmly united. The wound was healed by December 12th. At the end of the first week there was some redness along the edges of the incision and the joint was aspirated, lest there might have been an error of diagnosis. There was afterward suppuration in the thigh high up and just above the knee.

February 4th she developed a phlegmonous erysipelas, which extended from the foot to above the hip and lasted a week, leaving three sinuses on the inner aspect of the limb—one leading to the wire and the others into the femoral intermuscular spaces. These all closed later. She remained in the hospital on account of a bed-sore not yet healed and some cerebral disorder.

June 30th she had convulsions, delirium, and coma, and death followed. Autopsy disclosed cerebral softening and meningitis. There was bony union of the patella, which was refractured post mortem.

Case XXXII.—Male, aged forty-three, translator; habits intemperate; physique fairly good. On November 13, 1888, sustained a comminuted fracture of the left patella by a fall over the banister of a stairway, striking the knee first as he reached the floor below.

Operation, November 23, 1888.—The patella was broken into seven fragments, with a primary line of separation through the middle, into which the torn capsule had intruded. One fragment, three quarters of an inch by one quarter of an inch in measurement, was nearly detached from the soft parts and was removed, leaving a hiatus at the inner border of the upper portion of the bone. The fragments were brought into apposition as well as possible by two wires and by sutures through the capsule. Apposition was only fair and at certain points. The superficial wound healed entirely by December 7th, and the patient walked on crutches December 17th. He suffered from a periostitis of the head of the tibia, which did not subside till the July following, and much delayed the use of passive motion. At that time there was osseous union and flexion of 45°.

Late Observations, November 3, 1889.—Patella solid and movable laterally. Cicatrix slightly adherent at its inner extremity. Kneels fairly well. Flexion, 90°.

November 10, 1889.—Flexion increased by his own efforts in one week from 90° to 135°.

Last Observation, April 8, 1890.—Osseous union. No change since last examination except that functions of the joint are more perfectly performed. Runs with ease.

Case XXXIII.—Male, aged forty-three, cigarmaker; beer drinker; nutrition good. On November 18, 1888, sustained a comminuted fracture of the right patella from direct violence in a fall.

Operation, November 30, 1888.—The primary fracture was transverse and the fragments were separated half an inch. The upper fragment was broken into four pieces and the lower into three, of which one was necessarily removed. The capsule intervened. Very good apposition was obtained by one wire and by sutures in the capsule. The wound was dressed in the usual manner and with the usual attention to aseptic detail. At the first subsequent dressing the gauze was found to be stained with pus and bloody serum. The superficial wound was dark and unhealthy in appearance and suppurating in its whole extent. The patient became thoroughly septicæmic. Diffused inflammation extended over the limb from the foot to the middle of the thigh, with profuse suppuration from the wound, and abscesses formed about the joint. Under vigorous local and constitutional treatment his condition began to mend in ten days, and three days later the drainage-tube was removed from the joint. In five weeks' time the wound had healed and the local inflammation had disappeared; but it was not till May that the normal condition of the limb became restored. Every exploration of a sinus, evacuation of an abscess, insertion of a drainage-tube, or other necessary surgical interference was followed by extension and aggravation of the unhealthy inflammatory process to a greater or less degree. At no time, however, was there any unhealthy inflammation or purulent formation in the joint itself. In May all sinuses were closed, the fragments of the patella were firmly united by bone, and the knee was rigidly extended. All attempts at passive motion were futile, but the patella gradually became movable upon the condyles.

June 17th.—The joint was forcibly flexed to a right angle. Spreading inflammation again supervened and continued till the last of July, when it had subsided and he was discharged from the hospital.

This operation, upon reflection, seemed to the operator and to his assistants as carefully aseptic as possible. The trouble evidently originated in the superficial drainage-tube and led to the suspicion that it had been imperfectly prepared or afterward contaminated. Some investigation gave us reason to believe that it had been previously used in another case.

Last Observation, March 9, 1890.—Osseous union very distinct. Patella freely movable in every direction. Cicatrix loosening from its adhesion. Flexion very limited. There seems to be no reason why the limb should not be flexed forcibly whenever he consents.

Case XXXIV.—Male, aged thirty-four, shipping clerk; habits intemperate; physique poor. On November 30, 1888, he sustained a transverse fracture of the left patella just above the middle, caused by indirect violence—in kicking a man the bone was fractured and he fell to the ground.

Operation, December 14, 1888.—Wound healed entirely in ten days. Discharged from hospital January 20, 1889, with firm union of patella, but not more than 10° flexion. In March, on account of persistent periostitis of the adjacent extremities of the femur and tibia, as well as from lack of use or passive motion, flexion had not been increased. In two operations under ether the knee was flexed to its full extent. In June flexion was complete and union of patella osseous. Strength of the limb unimpaired.

Case XXXV.—Male, aged forty-five, veterinary surgeon. (See Case XIII.) On January 19, 1889, he sustained a second fracture of the left patella, oblique and comminuted. Violence indirect. Occurred without fall while in the act of stepping out with left leg to walk.

Operation, February 1, 1889.—Two small pieces fractured off the upper fragment. The former fracture not involved and not being disclosed during the operation. Bone soft. Capsule falling between the fragments. Osseous union of former fracture verified. Primary union of superficial wound. He walked on the twenty-fourth day. Re-examination December 20, 1889. Bony union of recent fracture. Result perfect in all respects. Mobility, flexion, and strength.

Last Observation, April 8, 1890.—(Sketch showing two cicatrices.) No change from last examination.

Case XXXVI.—Male, aged twenty-one, truckman; habits and physique good. On April 8, 1889, he sustained a simple transverse comminuted fracture of the right patella from direct violence. Fell from his truck and struck his right knee upon the ground.

Operation, April 18, 1889.—There were four pieces of the upper and three of the lower primary fragments. One of the former was entirely detached and was removed. There was much laceration of the soft parts and the capsule was infolded between the primary fragments. Fair approximation was made by a single wire and was aided by manipulation of the capsule. The wound was not entirely healed until May 24th, and two days later the patient walked without support.

June 11th.—Union of patella was firm, and the upper fragment was closely adherent to the femur. Flexion was not more than 20°, and on June 26th, under ether, slight additional flexion was gained by moderate force.

July 28th.—As no increase of flexion seemed possible with the existing fixation of the upper fragment, another attempt was made, under ether, to move it and to bend the knee. The patella refractured with a snap, which fully demonstrated the ossific nature of the union of the original fracture. There was no separation of the fragments and the limb was at once put up in plaster in the belief that there was no involution of the capsule. The patient went about on crutches at once.

November 3, 1889.—From the removal of the plaster in August till this time he had disappeared from view. He returned with firm bony union and moderate lateral movement of the patella. Flexion was slight, but improved to about 15° in the course of a month's time, when he again discontinued his visits.

Last Observation, April 8, 1890.—Cicatrix freely movable, lateral mobility of patella and flexion of the knee about as before, but motion more easily made and flexibility of the soft parts about the joint greatly increased. I consider the prognosis for future complete flexion thoroughly good.

Case XXXVII.—Male, aged twenty-eight, cooper; habits good and physique strong. On May 3, 1889, he sustained a transverse fracture of the right patella just below the middle from indirect violence. Slipped from the fourth step of a stairway backward to the ground with his leg extended and "felt his knee-cap slip up his knee."

Operation, May 14, 1889.—Primary union of superficial wound. Patient got up for the first time and walked the length of the ward on the twentieth day without support. Discharged June 8th. Patella freely movable and firmly united. Flexion, 45°. Re-examination November 4th. Cicatrix movable and beginning to disappear. Firm bony union. Flexion, 135°. Kneels properly. He has been at work at his trade since July 5th.

Last Observation, April 8, 1890.—No change since last examination.

Case XXXVIII.—Male, aged thirty, peddler; poor physique. On February 25, 1889, sustained a transverse fracture of the right patella below the middle from direct violence; fell down stairs and his knee struck the ground. A periostitis of the head of the tibia and inner condyle of the femur supervened which was so intractable that it led to a suspicion of osteosarcoma. There was no suppuration and only slight arthritis. The fragments of the patella were occasionally moved to prevent adhesion.

Operation, July 21, 1889, by which time the periostitis was cured and his general condition good. Flexion was about 20°, and separation of the fragments one inch. The fragments were soft, especially the lower, which had also undergone some absorption and was small. The surface of each where fractured was covered with a gray fibrous tissue, and underneath this was a whitish cartilaginous material in the cancellous structure. Two wires were employed. Coaptation could only be effected posteriorly; anteriorly, approximation could be made only to within three eighths of an inch on account of the softness of the bone and the shortening of the quadriceps extensor muscle. The wound healed without suppuration and the knee was immobilized with silicate of soda. No passive motion was used till September, and little could be accomplished.

October 3d.—The joint was forcibly flexed under ether to about 40°.

January 4, 1890.—The joint was put upon the stretch under ether without attempting to increase the amount of flexion, and again on March 4th. The mobility of the joint is increasing. Upon an examination made by thrusting a needle at several points into the line of fracture, union was found to be in great part osseous. Still under observation.

Case XXXIX.—Male, aged thirty-five, shipping clerk. (See Case XXXIV.) On July 8, 1889, he sustained a transverse fracture of the left patella from indirect violence—fell over a roll of cloth.

Operation, September 6, 1889.—Deferred on account of my absence. In the mean time he had no treatment except an elastic knee-cap. The fracture was found to be in the line of the one received in November, 1888, and previous osseous union was shown in the still roughened surfaces of bone. Apposition could only be made posteriorly; anteriorly there remained separation of a quarter of an inch. The superficial wound united primarily.

October 27th.—The patella was movable laterally and flexion could be made to 45°. As the condition of the knee remained stationary, it was flexed under ether on January 3, 1890, to 70°, and again on January 28th a little more. Since that time his improvement has been retarded by a rheumatic diathesis, as well as by a sort of moral flabbiness which not infrequently tries the patience of the surgeon, and sometimes mars the ultimate perfection of his result.

Case XL.—Female, aged fifty-five, cook; general condition bad; querulous, fretful, and enfeebled. On September 14, 1889, sustained a transverse fracture of the left patella through the middle from indirect violence; slipped and fell upon the floor.

Operation, October 11, 1889.—Delayed to this time on account of her general debility and occasional high temperatures. The fragments were separated a quarter of an inch. No superficial drainage was used, and on October 20th, at the second dressing, the wound was thoroughly and entirely healed.

31st.—Union of the patella was firm and lateral movement was begun.

November 8th.—Began flexion.

December 23d.—Flexion 45°, and could walk without support.

January 4, 1890.—Flexed under ether to 90°, and on January 18th to 135°. Discharged February 5th, at which time the evidence of osseous union was unquestionable.

Last Observation, April 12, 1890.—Joint perfect.

Case XLI.—Male, aged forty-five, roofer; habits good, and of apparently good physique. On October 11, 1889, sustained, in connection with other injuries of the knee, a fracture of the upper border of the left patella from a fall while upon a roof.

Operation, October 18, 1889.—The whole of the tendon and muscular substance of the left quadriceps extensor muscle was torn across and separated at the level of the middle of the patella. A small scale or fragment of the upper border of the patella was fractured off and attached to the inferior surface of the tendon an inch or more above the torn extremity. The corresponding surface of the patella was rough and thoroughly covered by lacerated longitudinal fibers of the capsule. This surface was cleared and freshened by the scoop, and a wire, previously passed through the whole thickness of the tendon and detached bony scale, was carried through it. The osseous parts were drawn together by the wire, which was twisted and secured in the usual way. The overlapping tendon was then sutured to its own lower fragment, thus covering in the wire. The torn muscle on either side of the patella was sutured, the deep fascia was sutured over this, and finally the skin over all. On the first and second dressings there was no suppuration, and the superficial drainage was changed to horse-hair. At the third dressing, October 27th, there was slight purulent discharge coming from the inner extremity of the wound, barely staining the gauze. Otherwise there was primary union. Highest temperature, 99·6°. From November till January he had several attacks of erysipelatous inflammation extending over the whole length of the limb, but not excited by any local trouble at the knee.

December 17th.—A minute fragment of bone was extracted from a small cavity which had existed over the patella, and which then healed. On account of the tendency to diffused inflammations, it was thought best to defer moving the joint for some time after he had been removed from hospital atmosphere. He is now at home with a joint only imperfect in the matter of flexion. This defect I believe to depend upon the extensive injuries which accompanied the very limited fracture of the patella. I see no reason why the fibrous ankylosis should not be relieved in due time by forcible flexion.

Case XLII.—Male, aged twenty-one, truckman; habits intemperate; physique strong and muscular. On November 26, 1889, he sustained a transverse fracture through the exact middle of the left patella from direct violence—struck by a policeman's club while intoxicated.

Operation, December 3, 1889.—Contusion of soft parts moderate. Joint cavity full of blood. Separation of fragments half an inch. Thick mass of fibrous tissue covered in the lower fractured surface for half its depth. Coaptation of fragments perfect. Superficial horse-hair drainage.

11th.—Second dressing. Solid union of the wound.

23d.—Lateral motion of patella and flexion begun.

26th.—Posterior splint removed. Flexion, 20°.

January 4, 1890.—Flexed to 45°.

7th.—Under ether to 90°.

21st.—Under ether to 135°.

February 4th.—Discharged.

12th.—Re-examined. Retains all the flexion he had gained. Lateral motion of the patella free. Union of fragments firm and by bone. Limb strong. Has resumed work.

Last Observation, April 7, 1890.—No change in his condition since previous examination. Joint perfect.

(*To be concluded.*)

OBSCURE NASAL DIPHTHERIA IN INFANCY.*

By L. EMMETT HOLT, M. D.,

PROFESSOR OF DISEASES OF CHILDREN IN THE NEW YORK POLYCLINIC.

Nothing is more difficult than the recognition of atypical forms of infectious diseases. It is of great importance that all the variations should be recorded for a comparison of experience, since failure to recognize these cases often leads to such serious consequences, especially in institutions where children are cared for.

I do not think cases like those which follow are very common, and for that reason they are all the more interesting. They occurred in my service at the Babies' Hospital.

Case I.—*Profuse Nasal Discharge; no Exudation on Tonsil till Fifteenth Day; no Membrane Visible in the Nose till Twentieth Day.*—The patient was a rhachitic child two years old; family history tubercular. She had been in the hospital two months, gaining steadily in every respect until January 7th, when she developed a very profuse nasal discharge. In a few days this became tinged with blood, and once or twice after nasal syringing quite a hæmorrhage took place. There was very little prostration and little or no rise of temperature except for two days, when swelling and tenderness about the hands and feet led to the suspicion of rheumatism. No treatment that was employed had more than a temporary effect upon the nasal discharge. It was always copious, frequently tinged with blood. It was mucous and serous, but not purulent enough to color it. Although the pharynx and nose were carefully watched, it was not until the child had been sick two weeks that a minute spot of exudation was discovered upon one tonsil. The case was at once quarantined. It was four days before any extension of exudation was seen in the throat. At this time a similar spot, of about the size of a split pea, was seen on the other tonsil, and on the twentieth day of the disease membrane was seen for the first time in the nose, and the case was transferred to the Willard Parker Hospital. The child now went through a most severe form of nasal diphtheria with typical symptoms, lasting over two weeks, and ultimately died, it was reported, of tuberculosis during convalescence.

This was the first case of diphtheria occurring in the hospital; and, although the child was quarantined with the appearance of the first spot upon the tonsil, and removed as soon as the diagnosis was established, two other cases developed, one nasal and one laryngeal, both being promptly removed.

Case II.—*Nasal Discharge of Mucus and Blood for Twenty-nine Days without Other Symptoms of Diphtheria; then Œdema in Lower and Upper Extremities, and Death in Collapse on Thirtieth Day; no Membrane Visible at Any Time.*—This case occurred in the person of a delicate infant six months old, who was admitted to the ward from which Case I was removed, just before it had been positively recognized as diphtheria. On the tenth day after this there developed a profuse, thin, acrid discharge from the nose, which had all the characters of that seen in the preceding case. The case was immediately isolated and kept in quarantine for over two weeks. During this time the temperature never rose above 100° F., and only once or twice reached that point. There was no prostration, the child took its food well, and repeated examinations of the nose failed to reveal any membrane. Throat also negative and free from congestion. This case was seen twice by one of the inspectors of the Board of Health, who was unwilling to make the diagnosis of diphtheria, although this was suspected all the time on account of the preceding cases. The case was treated most of the time by iodoform tampons, and after they had been used for forty-eight hours the discharge greatly diminished and almost ceased. It increased again as soon as they were omitted. At the end of two weeks, quarantine was discontinued, as the general symptoms were better, although there was no essential change in the condition of the nose. During the following two weeks the nasal discharge continued without any change in its character or in the other symptoms. The throat was inspected daily, as was also the nose, for any suspicious patches. During the fourth week she was in better condition than for a month; had gained six ounces in weight during the week, and had seemed generally better, taking food and stimulants well.

On the twenty-ninth day œdema of the hands, and quite marked in the feet, was discovered. There was also considerable prostration. An attempt was made to collect urine for examination, but it was unsuccessful. The child went into collapse on the following morning and died.

At the autopsy there was found quite an intense parenchymatous nephritis. The heart contained an old thrombus; the other organs, except the upper air passages, were essentially normal.

There was a patch of diphtheritic membrane upon the right lateral wall of the naso-pharynx about an inch in diameter; a small deposit on the right border of the epiglottis near its base; along the anterior pharyngeal wall, opposite the cricoid cartilage, was a sloughy-looking ulcer, covered partly with false membrane, quite deep and evidently of diphtheritic origin. It was fully three fourths of an inch long and clearly of some considerable duration.

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* Read before the New York Clinical Society, March 28, 1890.

Although this child was for two weeks in the ward with other infants, no more cases developed.

There are four points of interest suggested by these cases:

First, as to the time when the diphtheria began. Were they cases of diphtheria from the beginning, or was this disease ingrafted upon the nasal catarrh after this had existed for some time? It is, of course, impossible to say absolutely whether the latter view of the case may not be the correct one. It seems to me, however, that *diphtheria from the outset* is the more probable, for the following reasons: There was no essential change in the character of the discharge throughout the case; it contained blood almost from the beginning; it varied much in amount, but not otherwise; nor was there the change in the constitutional symptoms one might expect with the ingrafting of an infectious process upon a simple one. The first child was not more sick after the diphtheria appeared on the tonsils than for the week previous, while the last case actually gained nearly half a pound in weight during the week which ended three days before death. In this case the lesion, especially that in the lower pharynx, was evidently much older than this. The nephritis likewise points to an older process.

The second point of interest relates to glandular swelling. At no time in either case were there any glands larger than the tip of one's little finger. Most writers upon nasal diphtheria have made much of glandular swellings as a point in diagnosis. They were of no value here.

The third feature of interest is the frequent occurrence of small hæmorrhages, or the discharge of mucus stained with blood. This should always arouse suspicion.

Finally, did the fact that iodoform tampons in the anterior nares were used a good part of the time have anything to do with preventing the development of membrane in this region where it could have been visible?

15 East Fifty-fourth Street.

Barbers' Brushes and Contagion.—"The frequency with which the contagion of parasitic sycosis has been traced to its source in a barber's shop is almost characteristic of the disease. In our issue dated February 15th attention has once more been directed to this point in a note on four cases, all of which appear to have owed their origin to the attentions of one particular operator. The writer, probably with justice, attributes the transference of the infective germs in these cases to the use of unclean brushes and a common soap supply. He suggests that the former evil should be obviated by immersing the brush after each time of use in boiling water. As regards the soap, a safeguard already exists in the practice, now common among hairdressers, of using for each client a separate portion of soap-cream, thus avoiding all danger of intermixture. The suggestion respecting the brush is well worthy the attention of barbers, and we might add a further injunction that the water be not only boiling, but fortified in its cleansing property by some simple antiseptic. It is taken for granted that the razor, being both easily and regularly cleaned, is rarely, if ever, a medium of infection. The uncomfortable owner of a sycosis eruption will grant his emphatic assent to the ancient saying which lauds prevention more than cure. Since, moreover, as stated in the paper to which we have already alluded, an occasional razor cut may occasion the transference of more serious diseases by the mixture of blood with soapsuds, every cleanly precaution becomes the more imperative."—*Lancet.*

THE
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THE PROPOSED ABSURDITIES OF THE CENSUS.

In the Journal for May 10th we protested against certain features of the course that had been announced as about to be followed in the approaching census of the United States. Those features consisted of certain inquisitorial questions to be put to the men and women of the country, and of the expressed purpose to inflict a penalty for refusal to answer them. As the matter is one that concerns the most essential liberties of the citizen, it is amazing that the newspapers have treated it in a lukewarm way, doing little more than barely recording the fact that some persons thought the questions objectionable and recounting the opinions of the Superintendent of the Census and of one or two lawyers as to their legality. Soon after our article was published the Superintendent was reported to have said that of course the procedure was legal, for Congress had sanctioned it; as if Congress were an irresponsible and all-powerful body. At that time he showed no sign of any intention to pay the slightest heed to a public sentiment that was profound, although not noisily expressed. We are glad to see, however, that, if a Washington dispatch to the New York Times, dated May 26th, is to be credited, the Superintendent has now come to a rather less haughty attitude. According to the dispatch in question, he seeks to justify the offensive queries by explaining that their purpose is to enable the Government to obtain material for valuable and interesting statistics, such as the last French census contained, and he does not believe that it will be necessary to explain why it is so to the average American citizen. He deprecates the officious endeavors made by some of his subordinates to make ready for calling in the aid of the police to intimidate or punish those who may decline to answer, and intimates that the enumerators' duties will be done when they have set down the replies given them and recorded the refusals, leaving persons who fail to give full and explicit answers to be dealt with subsequently. But it is added that district officials "will be required to consider whether the refusals are of such a character as to require the exercise of greater constraint to elicit information." We are inclined to think that it will finally seem best to the census officials not to attempt to punish their fellow-citizens for declining to answer impertinent questions.

There is another phase of the census work that has come to our knowledge only recently. Its general outline is embodied in Dr. Billings's circular, which we print elsewhere in this issue. Accompanying the circular, which we presume has been sent to members of the medical profession quite generally, there is a blank form entitled "Physician's Return for the Insane, Feeble-minded, Deaf, Blind, and Sick," on which each physician addressed is asked to state the name, residence, age, sex, color, etc., of every insane, feeble-minded, or deaf person, or person blind in both eyes or so sick on the 1st of June as to be unable to attend to ordinary duties, that may be known to him. Among the "Special Instructions for filling Schedule" we find the following: "State the supposed cause of deafness, whether congenital, result of specified disease, etc."; "State, if deformed, the nature of the deformity and the part or limb affected; if sick, the nature of the disease; if suffering from the effects of an injury, the nature of the injury"; and "Be particular to state the name of the householder of whose family the afflicted person is a member." We regard the issue of these documents as very much to be regretted. It will be seen that the information asked for is of about the same kind as that aimed at in the enumerators' questions, over which the community is justly indignant. If men shrink from answering these questions for themselves and for the members of their families, they seem to us likely to resent still more pointedly a device by which, without their knowledge, members of the medical profession are asked to furnish the information for them. There is no guarantee even that information so conveyed would be correct; it is quite possible, indeed, that something more discreditable than ignorance might underlie the answers given by a medical practitioner so wanting in appreciation of the sacredness of the relation of physician and patient as to make any reply at all to such questions. We are convinced that the step has been taken without due reflection upon these points as well as upon the fact that the circular really asks the members of the medical profession to turn informers. There is, to be sure, no show of compulsion in the matter, for which we are heartily thankful; but the mere request reveals a lack of comprehension of what we believe to be the feeling of the profession. We do not think that our readers can be held to have failed in their duty if they decline to furnish the information asked for.

THE RECENT MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

If a large gathering was the sole essential of a successful meeting, the recent meeting at Nashville must be voted a success, for, while the city is remote from the great lines of travel, the populousness of the contiguous Southern and Western States was sufficient to insure in advance a full attendance at this convention—dear to the heart of so large a number of the profession. For those who live east of Philadelphia the location was a bad one, as is demonstrated by the small number of Eastern names on the programme, and the still smaller number of individuals who were actually there. The readiness with which our Southern and Western *confrères* undertake a long and expensive journey—expensive both in time and in money—is not shared by us of the East. When to this is added the uncertainty of arriving upon the ground at all, through fault and misrepresentation of transportation companies, we imagine the number will be still smaller at future meetings. Thus, the railroad which advertised by circulars freely distributed "the doctors' train," which was to leave New York on Sunday evening at five o'clock and arrive at Nashville on Tuesday at 6.50 A. M., really arrived at its destination at least eight hours late, involving a loss of the entire first day of the meeting, with its attendant annoyance and expense, the stranger being landed at Louisville at two o'clock in the morning, only to find the hotels of that city crowded with those who were attending the races there. Happy were they who came in contact with the hospitable physicians of that beautiful city during this interruption. Furthermore, neither the conductor of the so-called "doctors' train" nor the ticket agent at Jersey City had any knowledge (at least that was their statement) of the existence of any such train, and the ticket agent was not able to furnish the excursion ticket which the before-mentioned circular advertised. The train which the circular led one to believe would carry one to Nashville without change was exchanged at Huntington, W. Va., for one that was in every way inferior, and when it reached East Kentucky Junction, ninety-eight miles from Lexington, the bridge over the Little Sandy River was found to be undergoing repairs. This made a delay of more than two hours necessary and then a walk over the slippery ties of the bridge in the pouring rain to take the train which had started from the Lexington end of the route. This fact (the condition of the bridge) was known at Huntington, and at least one physician was beguiled into buying a ticket which was sure to bring him vexatious delay, and even danger to life or limb, though the other train was at Huntington which would have carried him to his destination, by way of Cincinnati, with little if any delay. It is unnecessary to speak of another delay at Lexington by the engine's running off the track, and the want of appliances for quickly restoring it to position. It is sufficient to say that when Nashville was reached not only was the first day of the meeting lost, but the crowded condition of the hotels entailed loss of rooms to some who had been thus unavoidably belated, the rooms which they had engaged having been given to earlier comers; and, though the local reception committee was most kind in endeavoring to find accommodations in private houses, much difficulty was experienced in obtaining them, and in at least two instances that are known the subsequent experience was not such as to invite a repetition of the visit in that direction. This experience was the more noteworthy because it was in such striking contrast with the cordiality everywhere shown in the entertainments and receptions which were tendered by the citizens of Nashville. The gracious hospitality of the people of the South was never more apparent.

As to the work which was done, it can not be said that there was anything conspicuous or striking about the general meetings and addresses. The recommendation that a slight knowledge of Latin be made one of the required preliminaries to the study of medicine was a very creditable move in the direction of elevation of standard. It was with surprise and regret that we listened to the argument of expediency which was urged against this recommendation by some of those who debated the question. There is no dearth either of medical colleges or of medical practitioners in this country, and if some of the former were closed, as it was prophesied they would be were the Latin preliminary requirement enforced, local and personal pride might suffer a little, but the public and the profession would surely be the gainers. In the sections, much that was promised in the programme was not realized, and we believe it a radical mistake to advertise a great number of papers which can not be read and discussed if offered, and which are quite unlikely to be offered. It is a species of dishonesty to promise a paper or papers with only half an idea that it or they will be furnished. The work in the surgical section seems to have been eminently satisfactory, and this is not surprising, considering the presence of those who led in the debates. The Section in Obstetrics was also more or less satisfactory. The attendance in the other sections was necessarily smaller, if we except the Section in Practice; as to the results, we leave the decision to those who attended the meetings continuously.

MINOR PARAGRAPHS.

TUBERCULOSIS VERRUCOSA CUTIS.

Our ideas as to tuberculosis of the skin are rapidly enlarging. Up to within a few years ago we knew nothing of a local cutaneous tuberculosis. Then we heard occasional accounts of ulcerations taking place about the mucous orifices of tuberculous subjects and supposed to be of tubercular origin. With the discovery of the bacillus of Koch pathologists told us that lupus vulgaris was a localized tuberculosis of the skin, and that the so-called scrofuloderms belonged to the same category. Tuberculosis verrucosa cutis is the youngest member of the group. Verruca necrogenica is probably but one form of tuberculosis verrucosa cutis. The disease is oftenest met with on the hands, and especially in those who work about cattle or handle raw meat. Hostlers, herdsmen, cooks, and butchers are those who are oftenest affected. Verruca necrogenica is seen most frequently in dead-house attendants, medical students, and anatomists. The backs of the hands and fingers are most commonly affected, the palms more rarely, and the disease seldom occurs on the rest of the body. The most complete description of the disease was given in 1886 by Riehl and Paltauf in the Vierteljahresschrift für Dermatologie und Syphilis, and it is to them that we owe much that we know about the disease. A typical patch has a narrow erythematous border about it. Inside of this there is an area which is raised, and toward its inner part becomes more and more papillomatous or warty. The skin is crusted, and, if the patch is squeezed laterally, pus will be seen to ooze up between the papillæ in little drops. Rhagades run between the papillæ. The color of the patch is a dull red. Infiltration is well marked. In an old patch it will be seen that the central part has become flattened and changed into a sieve-like scar. The disease spreads at the periphery, while it heals in the center. The shape of the patch may be circular, oval, or serpiginous, and it may attain to a size large enough to cover a good part of the back of the hand. The patch bears a strong resemblance to lupus verrucosus, but differs from it in not having any of the characteristic brownish tubercles of lupus, in showing no tendency to ulcerate or to return in the scar, and in occurring at a later period of life. That the disease is a localized tuberculosis of the skin is shown by finding the tubercle bacillus in the lesion, by cases of general tuberculosis occurring in the subjects of the disease, and by the recent successful attempts at inoculation made by Brugger, of Würtzburg. The treatment of the disease is by destruction of the growth, either by cutting it out, by scraping it out, by the use of caustics, or by a combination of any two of these methods.

ALGOSIS FAUCIUM LEPTOTHRICIA.

In the Deutsche Medizinal-Zeitung for March 3d Dr. C. Mittenheimer deals discursively with the subject of this affection. He states that the disease had only come under his notice three times, there being an interval of fourteen years between his observation of the first two cases and the last case. His first case was that of a young woman, twenty-six years of age, who consulted him on account of some white patches which had appeared on the tonsils. She had a quiet pulse, no elevation of temperature, slight dysphagia, pain in the pharynx and larynx, and some cough. The tonsils were somewhat swollen, the inflammatory process in them extending over the soft palate and pharynx. Over this inflamed area were pretty generally disseminated quite a number of white patches. Pending a diagnosis, the author treated the case as one of diphtheria, giving an active purge, and using a five-per-cent. solution of carbolic acid as a gargle, with sulphur insufflations. The effect of this treatment was a lessening of the inflammatory condition, but without alteration in the patches. Portions of this false membrane were scraped away and examined microscopically, demonstrating the filaments of the *Leptothrix buccalis* and swarms of vibriones. Persistence in the treatment resulted in failure to effect any separation of the membrane, and the author was led, by the extreme tolerance which the parts had shown to handling and scraping, to resort to the application of nitrate of silver. The result was prompt amelioration of all the symptoms and a gradual diminution in the number of characteristic spores, with entire disappearance of the white patches on the seventh day. The tonsils continued tender and uneven until about the fourteenth day. Six weeks afterward the patient suffered a relapse of the trouble, with a recurrence of the entire train of symptoms, which, however, yielded promptly to a repetition of the nitrate-of-silver applications. The author did not see another case of this disease for fourteen years. Here the microscope revealed the *Leptothrix buccalis*, and treatment with nitrate of silver cured the patient in five days. The author suggests that suspicious cases, in which there is present any pseudo-membrane, diphtheritic or not, might, with advantage, be promptly subjected to local cauterization with nitrate of silver, either solid or in solution.

ACUTE CONTAGIOUS PEMPHIGUS.

The whole subject of pemphigus is undergoing a most thorough overhauling, and many diseases that were before regarded as pemphigus have been thrown out. In this way the bullous form of erythema, hydroa, various forms of bullous medicinal eruptions, and the bullous variety of impetigo contagiosa have been forced to stand on their own feet, as it were. While it is not denied that there is such a disease as pemphigus, it is affirmed that it is a rare one, and that it runs a chronic, slowly fatal course. Every once in a while we read in the German journals of cases of so-called contagious pemphigus. A recent outbreak of this disease is reported by Dr. Faber, of Copenhagen. He describes it as being contagious and consisting in an eruption of bullæ chiefly upon the chin, neck, head, legs, arms, and hands. These run an acute course, attended with slight constitutional symptoms, and yield readily to soap frictions and a little tar ointment. Of course this is an accurate description of impetigo contagiosa, and the disease has nothing in common with pemphigus, excepting the bullæ. Faber acknowledges that his cases are identical with our impetigo, but calmly insists that we are wrong in so regarding it. Nevertheless, we are safe in still believing that the Germans are wrong and we are right.

THE PRESERVATION OF OUR FORESTS.

The Adirondack Park Association has been permanently organized for the laudable, almost religious, duty of preserving the "north woods" from further depredations. Dr. Alfred L. Loomis has been elected president, and Dr. Martin Burke, secretary. Nearly all the officers are residents of New York, and, with the exception of the two above named, are from among our merchants and lawyers well known in every public-spirited undertaking. We think that the future of the great State park can be assured through the efforts of this notably influential body of citizens. The cause of forestry, in its health relations, has received a help in recent action taken by the National Conference of State Boards of Health, at Nashville, in the adoption of resolutions declaring in favor of the preservation and cultivation of forests. The position taken by the promoters of this action is that floods and cyclones, which are becoming more and more frequent and destructive of life, are due mainly to the ruthless cutting down of forests. Thus we see that the conservation of the Adirondacks and other wild woods partakes in a reform that is national in its scope, and it is eminently proper and fit that the medical men of the country should be found in its vanguard.

THE JENKS PRIZE FOR 1892.

The second triennial award under the Jenks Prize Fund will be made in 1892, and all competing essays should be handed in on or before January 1st of that year to the College of Physicians of Philadelphia. The value of the prize will be $450, which will go to the author of the best dissertation on the Symptomatology and Treatment of the Nervous Disorders following the Acute Infectious Diseases of Infancy and Childhood. The competition is open to all, but the essay must be the production of one person only; joint authorship is here inadmissible. If the essay is submitted in a foreign language, it must be accompanied by an English translation, and should be addressed to Dr. Louis Starr, chairman of William F. Jenks Memorial Prize Fund Committee, at the college above named. The winner of the first award was Dr. John Strahan, of Belfast, Ireland, for an essay on Extra-uterine Pregnancy.

DR. SEGUIN'S TORONTO LECTURES.

In this issue we give the concluding portion of three remarkable lectures lately delivered by Dr. E. C. Seguin, of Providence, R. I., before the Medical Society of the University of Toronto. We think that Dr. Seguin was wise not to confine himself in these lectures to the narrow limits of neurology. What he said—and said so happily—shows by how broad a path neurology traverses the field of general medicine.

INTRA-OCULAR SYMPTOMS DUE TO NASAL DISEASE.

According to an article in the Berliner klinische Wochenschrift, an abstract of which appears in the Centralblatt für klinische Medicin, Ziem found that the field of vision was cut off to a greater or less degree in seven cases of suppuration in the antrum of Highmore, and that treatment directed to the nasal trouble was followed by immediate and marked improvement, not only in the field, but also in the acuteness of vision and in the strength of accommodation. In two cases he noticed changes in the refraction during the treatment. Examination of the eyes revealed nothing except venous hyperæmia of the papillæ. Ziem does not consider that these are reflex symptoms, but that they are due to venous pressure in the ciliary region, caused by the interference with the venous circulation in the nose.

OCULAR MANIFESTATIONS OF INFLUENZA.

In the Gazette hebdomadaire de médecine et de chirurgie M. Nimier has collated a large number of cases reported by different authors in which ocular symptoms have appeared during or after an attack of influenza. Some observers found the eyes affected in only a very small proportion of the cases of influenza, and then chiefly in the form of hyperæmia or of a mild catarrh, while others reported isolated cases of severe inflammation of almost every part of the eye and orbit. A careful perusal of the article will lead the reader to suspect that in many of these cases the fallacy "post hoc ergo propter hoc" was not avoided, and that during the late epidemic there were no distinctive ocular manifestations.

THE ADDRESSES AT THE BERLIN CONGRESS.

We learn that Dr. Horatio C. Wood, of Philadelphia, has been chosen to deliver one of the public addresses at the International Medical Congress to be held in Berlin this summer, and that the committee has been quite desirous of selecting an American for the purpose. We congratulate the committee on its choice of Dr. Wood, and appreciate the honor it has been good enough to confer on the American profession.

ITEMS, ETC.

The American Association of Genito-urinary Surgeons.—The fourth annual meeting will be held at Altoona, Pa., on the 3d and 4th of June, under the presidency of Dr. John P. Bryson of St. Louis. The programme includes the following titles: A Discussion on Tuberculosis Uro-genitalis, introduced by the president and participated in by Dr. E. L. Keyes, of New York, Dr. L. B. Bangs, of New York, Dr. W. T. Belfield, of Chicago, Dr. W. M. Mastin, of Mobile, Dr. A. Post, of Boston, and Dr. A. T. Cabot, of Boston; A Case of Stricture followed by Rupture of the Urethra and Extravasation of Urine; External Urethrotomy; Recovery, by Dr. J. Blake White, of New York; Report of Six Cases of Perineal Section, by Dr. J. W. White, of Philadelphia; Cases of Successful Operation for Bulbo-membranous Close Strictures by Internal Urethrotomy, by Dr. E. R. Palmer, of Louisville; A Urethrotome for Close Stricture of the Urethra, by Dr. J. B. White, of New York; Presentation of New Urethral Instruments, by Dr. F. Tilden Brown, of New York; Presentation of New Urethral Instruments, by Dr. W. K. Otis, of New York; A Contribution to the Study of Prehistoric Syphilis in America, by Dr. J. Nevins Hyde, of Chicago; Some Unusual Modes of Infection with Syphilis, by Dr. R. W. Taylor, of New York; A Case of Successful Nephrectomy for Sarcoma, by Dr. E. L. Keyes, of New York; A Case of Severe Hæmaturia; Nephrectomy by Dr. McBurney; Recovery, by Dr. F. Tilden Brown, of New York; A Case of Cystitis, with the Formation of a Thick Epidermal Sheet in the Bladder, by Dr. A. T. Cabot, of Boston; A Case of Obscure Bladder Disease treated by Suprapubic Cystotomy and Prolonged Drainage, by Dr. L. B. Bangs, of New York; Notes on the Technique of Suprapubic Cystotomy and Prostatectomy, by Dr. W. T. Belfield, of Chicago; A New Means for the Removal of Intravesical Growths through a Suprapubic Cystotomy, by Dr. F. S. Watson, of Boston; A Case of Congenital Malformation of the Urethra, by Dr. A. W. Stein, of New York; Notes on the Operation, After-treatment, and Results of Litholapaxy, by Dr. G. Chismore, of San Francisco; Memorandum in a Rare Complication of Litholapaxy, by Dr. J. W. White, of

Philadelphia; A Case of Cyst of the Kidney, apparently cured by a Single Aspiration, by Dr. A. T. Cabot, of Boston; Peripheral Neuritis of Syphilitic Origin, by Dr. J. A. Fordyce, of New York; Degenerative Changes in the Fingers and Toes of an Old Syphilitic, by Dr. R. W. Taylor, of New York; Circumcision, by Dr. E. R. Palmer, of Louisville; A Case of Prostatectomy, by Dr. J. W. White, of Philadelphia; Diphtheria of the Meatus Urinarius, by Dr. F. Tilden Brown, of New York; and A Case of Ecstrophy of the Bladder (with Photographs), by Dr. A. T. Cabot, of Boston.

The Charing Cross Hospital, London.—This institution, familiar to many American physicians who have been abroad, was on May 4th the site of a commencing conflagration, due to a defective condition of some part of its heating apparatus. Nobody was injured, however, and the damage, which was slight, was confined to the Victoria Ward.

A Death from Chlorodyne.—A death has taken place at Tunbridge Wells, England, following the use of chlorodyne. The coroner's jury rendered a verdict of death by "misadventure," at the same time recommending that the sale of such powerful patent medicines be "restricted."

The Nova Scotia Medical Society.—We learn from the Maritime Medical News that the twenty-second annual meeting of this society will be held July 2d and 3d, at Granville Ferry, in Annapolis County. Important scientific business will be transacted. Six members must at that time be nominated to the Provincial Medical Board. The society will also consider the formation of a Maritime Medical Association, by the union of the New Brunswick and Prince Edward Island Societies with that of their own province. The consummation of this movement is expected to take place within the current year.

The Hartford Hospital.—The late Junius Spencer Morgan left a bequest of $20,000 to the City Hospital of Hartford, Conn., on condition that the authorities of that institution should assume the duty of keeping his grave in order. During his lifetime Mr. Morgan was a generous friend to Guy's Hospital, London, his gifts to that institution amounting to not less than $50,000. Another subject of his benefactions was the National Fund for Pensioning Nurses, in England, which received from him two subscriptions of $25,000 each.

The late Dr. Howard P. Trask.—At a meeting of the Charity Hospital staff of 1889–'90 the following preamble and resolutions were adopted:

Whereas, It has pleased Almighty God to remove from his earthly sphere our worthy companion and professional brother, Dr. Howard P. Trask, of Chicago, Ill., we, his sorrowing associates, deeply conscious of the loss we have sustained, wish formally to record our high appreciation of his character and example; therefore, be it

Resolved, That we, as a staff, hereby express our sincere grief for the untimely loss of our friend. A man of unusually impressive and dignified presence, with a manner of mingled firmness and gentleness, he commanded the respect and won the confidence of all with whom he came in contact. In obedience to the Almighty Power that rules the destinies of men, that can build up or cast down, that can give or take away, we bow in humble submission about the bier of our departed fellow-member and professional brother.

Resolved, That our staff most respectfully tender to Dr. Trask's bereaved relatives this expression of their profound sympathy and the acknowledgment that in his death we lose a most esteemed friend and colaborer in our profession. Be it further

Resolved, That a copy of these resolutions be sent to the family of the deceased and that they be furnished to the medical journals of this city and Chicago for publication.

[Signed.]
Alexander Lyle, Jr.,
W. O. Plimpton,
Cuthbert Gilham,
F. Louis Waite,
L. M. Michaelis,
Joseph R. Crofton,
Henry A. Higley.

Society Meetings for the Coming Week:

Monday, *June 2d:* German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *June 3d:* American Association of Genito-urinary Surgeons (Altoona, Pa.—first day); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Medical Societies of the Counties of Columbia (semi-annual—Chatham), Franklin (semi-annual), Herkimer (annual—Herkimer), Niagara (annual—Lockport), Orange (annual—Goshen), Saratoga (annual), Schoharie (annual), Ulster (annual—Kingston), and Yates (annual), N. Y.; Hudson (Jersey City), and Warren (annual), N. J., County Medical Societies; Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *June 4th:* American Association of Genito-urinary Surgeons (second day); Ohio State Medical Society (first day—Columbus); Wisconsin State Medical Society (first day—Milwaukee); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Societies of the Counties of Cattaraugus (annual) and Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Orleans, Vt., County Medical Society (annual); Philadelphia County Medical Society.

Thursday, *June 5th:* Ohio State Medical Society (second day); Wisconsin State Medical Society (second day); New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *June 6th:* Ohio State Medical Society (third day); Wisconsin State Medical Society (third day); Baltimore Clinical Society.

Saturday, *June 7th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN PATHOLOGY.

Meeting of February 14, 1890.

The President, Dr. E. H. Bennett, in the Chair.

Two Corneal Tumors.—Dr. A. H. Benson brought forward two corneal tumors; and Dr. W. Graves exhibited lantern illustrations of microscopic sections from the growths. Dr. Graves regarded one as a lymphoma, and the other as a fibroma.

Dr. Story, Dr. Patterson, Dr. McKee, and Dr. Scott criticised the communication, commenting upon the rareness of corneal tumors in general, and expressing their doubts as to the correctness of the diagnosis made of the present specimens.

At the conclusion of the debate the specimens were referred to the Committee of Reference for examination and reports.

Rectal Neoplasms.—Dr. C. B. Ball and Dr. J. Alfred Scott gave lantern illustrations of rectal neoplasms.

Dr. Scott explained the apparatus with which he had worked.

After remarks from Dr. McKee, Dr. McWeeney, and Dr. Patterson, Dr. Ball, in reply, said that, as to the causation of these fibrous polypi from ordinary internal piles, which he had put forward, most of the points which had suggested that idea were clinical rather than pathological. They found ordinary internal piles in the first instance soft and brightly vascular, consisting of a lot of very loose connective tissue covered with mucous membrane, and containing a large number of very dilated veins, thrombosed with laminated clots and, very frequently, arteries of moderate size. But if they examined sections of piles which had existed for many years they would find that the connective-tissue element had greatly increased, while the vascular element was not at all a noticeable feature, and, as they went still further on, the formations became pedunculated. The view that these originated in piles was more based on clinical observation than on microscopic examination. With regard to Professor Symington's theory, that the anus was a canal, and not an opening, it explained many things that he (Dr. Ball) had been unable satisfactorily to account for before—one being the height to which, under ordinary circumstances, the mucous membrane was to be met with; and another, that tumors which were perfectly reducible were found within the rectum, and not appearing externally, and still covered with squamous epithelium. The canal was lined with skin till it joined with the mucous membrane; but in frozen sections the canal appeared to have very little existence. Of course, the conditions were very different during life and after a frozen section had been made; for after death the sphincter was relaxed, and then, to a certain extent, there was an open cavity, whereas during life it was closed. A digital examination would convince any one of the truth of Professor Symington's observation.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN OBSTETRICS.

Meeting of March 7, 1890.

The President, Mr. S. R. Mason, in the Chair.

Exhibitions.—Mr. O'Callaghan exhibited a spindle-celled sarcoma of the broad ligament. He had removed it from a patient some time before, and had already given details of the case in a paper. When he cut into the growth the hæmorrhage was brisk, but he enucleated quickly, twisted the remains of the covering together, and tied them. No immediate bad symptoms ensued; but the tumor recurred in nine months afterward, and the girl died of it. Dr. Purser had examined it and pronounced it to be a spindle-celled sarcoma. Such growths were very rare.

Mr. O'Callaghan also exhibited a papilloma of the broad ligament. This had a broad pedicle, and was very marked in character when fresh. The woman had entirely recovered.

Mr. O'Callaghan also exhibited subperitoneal fibroids which he had removed on the previous morning. There was quite a nest of them, and they showed what sometimes had to be encountered in the enucleation of fibroids of the broad ligament. They were all on the right side; and when commencing the operation he put on a Tait's rope-clamp, and throughout the whole operation there was little or no hæmorrhage. On loosing the clamp, however, a brisk hæmorrhage took place from the right broad ligament. He removed the right ovary and tube and tied the broad ligament. None of these fibroids were associated with the uterus itself. Up to the present time the woman had not had any bad symptom; and he had received a telegram saying that she was going on very well, and that her temperature was normal.

Successful Removal of a Large Fibro-cystic Tumor.—Dr Macan submitted a case of successful removal of a large fibro-cystic tumor.

The President said it was a form of tumor which was exceedingly difficult to remove; and operations for its removal by abdominal section had been heretofore unfortunately very fatal. He had operated in two cases himself.

Dr. Byrne remarked that Dr. Macan had not mentioned the reasons on which he founded the diagnosis that this was a fibro-cystic, as distinguished from a fibrous, tumor or myoma.

Dr. Macan, in reply, said that in such cases there was every gradation of difficulty in the diagnosis from extreme ease to impossibility.

Three Cases of Rupture of the Perinæum.—Dr. Horne, the secretary, read a paper by Dr. Kinkead, of Galway, detailing three cases of rupture of the perinæum.

Dr. Atthill said no person of experience nowadays thought of treating severe laceration of the perinæum otherwise than by immediate suturing. The really important question was as to how rupture was to be prevented. Dr. Kinkead was perfectly right in saying that in the great majority of cases the occurrence of rupture was due to the condition of the perinæum, and to nothing else. The last case mentioned in the paper, in which the forceps ruptured the perinæum laterally, indicated that one of the safest modes of treating a rupture was by nicking the perinæum laterally pretty deeply on both sides. In that way he had often prevented extensive lacerations which would have given a great deal of trouble. These small incisions did not need suturing. They were quite different from a rupture in the center of the perinæum, which would not unite.

Dr. Byrne said that he was not at all sure that the posture in which it was the practice in this country to place women for delivery was the right one, and that it did not conduce to laceration; but, looking on the pelvis as an outlet, he thought that, if women were allowed to select their own position, they would select a kneeling or stooping posture.

Dr. Smyly said that Dr. Bryce, in his work on Midwifery, said that in normal cases the obstetrician could do nothing but support the perinæum; and, therefore, if they could not save it they could do no good, but might do a great deal of harm. He (Dr. Smyly) believed that a great deal could be done to save it by giving chloroform, which would lessen the bearing down. He thought that rapidity in the passage of the head through the vulva had a great deal to do with laceration, and was a more efficacious cause of it than size of the head.

Dr. Atthill said that supporting the perinæum did harm if any portion of it was pressed against the head; but if, as could be done in some cases, the hand was got in front of the edges of the perinæum, and the head pressed forward so as to take the strain off the edge of the fourchette, a good result would be attained.

Dr. Baggot considered that there were serious objections to making two lateral incisions. These lateral incisions were very often made quite unnecessarily. Sometimes when they were made a laceration would commence from one of them, and the tear would be harder to stitch up than the others. If lateral incisions were made they ought afterward to be stitched up.

Dr. Macan said that rupture of the perinæum afforded a remarkable illustration of the differences of opinion that might exist with regard to an occurrence that was taking place daily under our observation. The question as to when the perinæum ought to be incised was an interesting one. If the left hand was passed between the woman's legs, and pressure exerted with the fingers on the child's head, while the tips of the fingers of the right hand were kept on the thin edge of the perinæum, we could both see and feel when the perinæum began to rupture. In this case an incision on one or both sides of the perinæum should be made, in order to prevent the rupture in the mesian line from extending toward the rectum. He considered that the sewing up of the perinæum after a bad rupture was an extremely difficult operation; and if a bad rupture occurred in the night-time, he thought the sewing of it should be deferred until next morning, when the operator could secure adequate assistance, and have the great advantage of daylight. Silk was extremely good for suturing, except where the rupture extended far up into the vagina. In such case the continuous catgut suture should be used, which could be sunk in the tissues, and, being absorbed, did not require removal. The old plan of after-treatment was to give opium, in order to prevent any motion of the bowels for some days; but he thought that a good loose stool every day was much better.

The President said there was one point as regarded the prevention of lacerations which he did not think any one had alluded to. Whenever a perinæum was thought to be likely to give way, there should be fomentation of the parts and orifice before the head was permitted to come through. This should be done for half or three quarters of an hour. He had stitched lacerations some hours after their occurrence, and the cases had turned out exceedingly favorably; and he quite agreed with Dr. Macan that if there was a bad laceration it was best to postpone the stitching until proper assistance and appliances could be had and the patient got into a proper position. The judicious application of chloroform in the second stage of labor very often prevented laceration from taking place.

Book Notices.

A Text-book of Mental Diseases; with Special Reference to the Pathological Aspects of Insanity. By W. Bevan Lewis, L. R. C. P. (Lond.), M. R. C. S. (Eng.), Medical Director, West Riding Asylum, Wakefield, etc. With Illustrations in the Text, Charts, and Eighteen Lithographed Plates. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xxii-552.

This book differs from other text-books upon the subject of insanity in that it devotes so much space to the anatomy and pathology of the brain. A hundred and fourteen pages are filled with the anatomical details of the cerebro-spinal nervous system, and almost as many with the pathological, these constituting about two fifths of the contents. There is much that is interesting in the pathological division, together with some few new ideas, but on the whole the pathology of insanity in general is left in much the same obscurity as before. Perhaps the most striking feature of the clinical section of the volume is the conspicuous absence of the word "paranoia," now so generally adopted in America and on the Continent to represent a particular form of insanity, generally congenital and hereditary, characterized by a series of metamorphoses from childhood to adult life, stages of hypochondriasis, of fixed delusions of persecution, and of fixed delusions of grandeur. The Germans term it *primäre Verrücktheit.* We once knew it in our English tongue as monomania. But paranoia is a word that has now been permanently adopted by all but English alienists, and it is a curious instance of a characteristic insular conservatism that the author of this latest book on insanity ignores the word and even the group of symptoms to which it gives a name, for he writes: "Monomania as a morbid entity must be regarded as a state *evolved out* of melancholic and maniacal perversions—as a special derivative of these conditions; never as a primary form of disease, but as itself one of the *terminations in chronic insanity.*" (Author's Italics.) A defect of this kind, however, is trifling compared with the numerous excellences contained in the book, and no one interested in the subject will fail to add it to his library.

Through the Ivory Gate: Studies in Psychology and History. By William W. Ireland, M. D. Edin. New York: G. P. Putnam's Sons, 1889. Pp. vii to 311. [Price, $3.]

The historical and psychological studies presented in this volume are a continuation of a similar work by the same author, entitled The Blot on the Brain, which attracted considerable attention at the time of its publication. Among the characters of this more recent work are those of Emanuel Swedenborg, Guiteau, Theodore of Abyssinia, and others equally well known. From the author's standpoint they all suffered undoubtedly from some form of mental derangement, being led away by delusions or uncontrollable passions from the proper comprehension of things and the right line of conduct. Psychological phases can be followed in the authentic and fully detailed history of the acts of each character. Much has been written and said of late years on the subject of chronic delusional insanity, and it often becomes a grave question as to whether persons presumably suffering from such a condition should be treated as responsible for acts ordinarily considered criminal. The author found the thought for his somewhat fanciful title in Book XIX of the Odyssey, beginning at line 562, which has thus been translated by Pope:

> "Immured within the silent bower of sleep,
> Two portals firm the various phantoms keep:
> Of ivory one; whence flit to mock the brain,
> Of winged lies a light fantastic train:
> The gate opposed pellucid valves adorn,
> And columns fair incased with polished horn,
> Where images of truth for passage wait,
> With visions manifest of future fate."

The studies are largely historical, and the reader is left to draw inferences from facts. The book is an acceptable addition to the literature of psychology and psychiatry.

Reports on the Progress of Medicine.

SURGERY.

By MATTHIAS L. FOSTER, M. D.

The Treatment of Hæmorrhoids by Excision.—Marcy (Annals of Surg., November, 1889) advocates the following operation for hæmorrhoids: The large intestine is previously emptied, the patient is etherized, placed in the lithotomy position, and the sphincter paralyzed by means of digital dilatation. The rectum is then washed out with a solution of corrosive sublimate, care being taken that none of it be allowed to remain. A pledget of wool dusted with iodoform is then placed in the rectum. Along the line of the junction of the mucous membrane with the integument division is made from the central line posteriorly from below upward on both sides to the meridian line above. This can be done with care without injury to the plexus of veins. The loose connective-tissue fascia is separated by the finger or blunt instrument quite deeply, cutting away connective-tissue bands which may appear. In a similar manner the mucous membrane is separated from the plexus. The plexus is thus separated from its surroundings, except at its base, and is tied off in the following manner: A needle with eye near the point, threaded with a tendon, is introduced posteriorly behind the mass and withdrawn; again threaded with the external end of the suture, it is carried about one third of an inch from its first introduction, unthreaded, threaded with the opposite end, and withdrawn. In this way the entire base is encircled by a line of deep, double, continuous sutures. In this manner an even, continuous compression is secured, as the stitches are not drawn so closely as to produce necrosis, but simply to protect against hæmorrhage. The hæmorrhoidal plexus is now dissected away with scissors just above the line of sutures, and the mucous membrane is stitched to the line of division just made. For the latter purpose he prefers a running blind stitch taken from side to side, from within outward, so that no stitches are left in sight, and the divided edges are evenly and accurately approximated. The wound is then dried, dusted with iodoform, and protected by a thin layer of iodoform collodion. In uncomplicated cases absolute restraint in bed is not necessary, and micturition is usually voluntary and easy. The bowels may be moved on the third or fourth day.

The advantages stated for this operation over that practiced by Mr. Whitehead are less hæmorrhage on account of the constriction of the vessels before division, less danger of secondary hæmorrhage, more accurate and easy closure and readjustment of parts, and the advantage which continuous animal sutures buried and incorporated into the tissues have over the interrupted silk suture, which is a foreign body, and, if not removed, must be thrown off by suppuration. He prefers a tendon from the tail of the freshly killed kangaroo, properly preserved and prepared, for these sutures, as catgut is often untrustworthy from inherent defects.

Perineotomy.—Hadra (*ibid.*) describes the following operation which he has performed on the male cadaver for the purpose of gaining free access to the rectum and bladder: The body is placed in the lithotomy position and a sound is introduced into the bladder and held by an assistant. The sphincters are held firmly by the left index finger inside the rectum and the thumb outside, and an incision is made right above the thumb across the perinæum from one tuberosity of the ischium to the other. The rectum can then be rapidly separated from the prostate and bladder as far as the recto-vesical fold with the finger or a blunt instrument. There are then in sight the subperitoneal part of the rectum, the prostate, and the posterior wall of the bladder. Less apparent are the ureters, seminal vesicles, and seminal cords. After dividing the recto-vesical fold there is ample room for access to the peritoneal cavity.

The Dry Method of Operations.—Landerer (Arch. für klin. Chir.) permits no fluid to come in contact with a wound while he is operating. The instruments are sterilized with carbolic acid, and the hands of the operator and the field of operation are cleansed with a 1-to-2,000 alcoholic solution of bichloride of mercury, but after that all fluids are interdicted. As the wound is made it is sponged with sublimated gauze and packed with the same material. The larger vessels are tied, but the pressure of the gauze is sufficient to check most of the hæmorrhage, so that when the operation is finished the surfaces are dry. The deeper portions of the wound are brought together when necessary with buried sutures and the wound is entirely closed, no provision whatever for drainage being made. The dressings are applied with moderate pressure. The advantages of this method are: the patient does not get wet or chilled; there is much less hæmorrhage; there is no danger from absorption of antiseptics; the duration of an operation is shortened, because there is less time spent in controlling hæmorrhage; the healing is more rapid and safe; the details are simpler, and the hands of the operator are not harmed.

Palmar Abscess in an Infant.—In the China Medical Missionary Journal for September, 1889, is an account of a pregnant woman who had a large popliteal abscess opened a few weeks before the birth of a child. When the child was two weeks old it was brought to the hospital with a large abscess in the palm of the hand, which had made a small opening for itself. This was enlarged, and afterward a counter-opening was made and a drainage-tube introduced. The hand was healed in about three weeks. Afterward the child had a large abscess above the left breast, and yet remained a plump and good-natured baby.

An Operation to reach the Gustatory and Inferior Dental Nerves without opening the Mouth.—Wallace describes this slight modification of Velpeau's external operation (Edin. Med. Jour., September, 1889). It was successfully employed in a case of epithelioma of the tongue. A curved incision is made over the ascending ramus of the lower jaw, the convex border corresponding to the angle of the jaw, the ends stopping short of the facial nerve. All of the soft structures are then turned up at a point about a quarter of an inch above the last molar tooth, and an opening is here made in the ramus with a half-inch trephine, the pin of which is placed an eighth of an inch anterior to the middle vertical line of the ramus. The gustatory and inferior dental nerves are then clearly seen, the inferior dental lying anterior and the more internal. The advantages stated for this method over those of Hilton and Moore are: The latter may be rendered difficult in epithelioma by inability to open the mouth. The growth is often very foul and septic. It is not easy to distinguish the two nerves from within. In several cases troublesome hæmorrhage has followed the internal operation.

Excision of the Ankle Joint.—Neve (*ibid.*, October, 1889) recommends the following operation: A large posterior, curved incision is made down the anterior surface of the fibula for the lower three inches, then across the heel at the insertion of the tendo Achillis, and again up the posterior aspect of the tibia for three inches. On the outer side this flap is carried down to the bone, and at the back it includes the tendo Achillis, but on the inner side it is only cutaneous. The deeper structures on the inner side, tendons, vessels, and nerves are dissected off the bone and turned forward. With the foot powerfully flexed the posterior surface of the ankle joint and astragalo-calcaneal joint are easily accessible. If the lower end of the fibula is removed and the lateral ligaments cut, the whole joint can be inspected and the diseased portions removed. After the operation, drainage is secured and the flap readjusted, the cut ends of each tendon being separately sutured.

Vesical Calculus.—Freyer (Brit. Med. Jour., Oct. 12, 1889) has made another contribution complementary to articles he has previously published. His great experience makes him an authority on this subject and gives great weight to his approbation of Bigelow's operation of litholapaxy, and to his extension of its application to young children. In this paper he records a case of litholapaxy on a child eighteen months old, probably the youngest subject ever submitted to this operation. The stone, which weighed only three grains, was crushed with a No. 5 lithotrite and evacuated through a No. 6 cannula. In two cases it was necessary to reduce the size of the stone so that it could be grasped by a No. 8 lithotrite. This was done by chipping and scraping it with the lithotrite until it was sufficiently reduced, a process for which the lithotrite was never intended but which may be of great practical importance. Calculi in children are, according to his experience, softer than in adults. Among Freyer's last 232 operations—177 litholapaxies, 52 perineal and 3 suprapubic lithotomies—there have been three deaths, one from each form of operation, a mortality of only 1·30 per cent., a result which he attributes altogether to the introduction of Bigelow's operation.

Amputation at the Hip Joint.—Myles proposes the following operation (Brit. Med. Jour., Nov. 9, 1889): An inch below Poupart's ligament and half an inch external to the femoral artery a stout nickel or steel skewer is thrust through the thigh from before backward to emerge a little above the gluteal fold, passing internal to the neck of the bone in the angle between the neck and the shaft of the femur. A rubber band is then passed on the inside of the thigh over the projecting ends of the skewer in a figure of eight so as to completely control the femoral artery. A long, straight transfixion knife is passed in the same direction as the skewer but at a slightly lower level, and an incision made vertically for two inches and then bending inward so as to form a tapering flap. The limb is then abducted, the capsule nicked, and the head of the femur turned out of its socket. At this point the operation may be varied by ligating the vessels in the inner flap or by passing a rubber band in a similar manner about the base of the outer flap, which is formed by carrying the knife over the great trochanter and down the shaft close to the bone for a sufficient distance and then bending outward to the surface.

The advantages alleged are its extreme rapidity, the complete control of hæmorrhage, the good drainage and apposition of the flaps, and the little liability to infection from the anus on account of the position of the wound.

Capital Operations performed during Pregnancy.—Mayo Robson (*ibid.*) reports five capital operations performed by him upon patients in stages of pregnancy varying from ten weeks to seven months, without inducing a miscarriage. These operations were removal of a fibroid of the cervix uteri, amputation of the breast for carcinoma, two ovariotomies, and one operation for strangulated hernia. That no miscarriage followed any of these he attributes primarily to the absence of pain and the lessening of shock during the operation by the use of anæsthetics, and secondarily to the absence of any wound complication, such as tension, fever, or pain, owing to the strict observance of antiseptic methods.

Abscess of the Liver.—Harley (*ibid.*, Nov. 23, 1889) recommends as the most satisfactory operation for abscess of the liver aspiration of the abscess through a cannula having the diameter of an 8 or 10 English catheter, and washing out the cavity with a solution of boric acid, ten grains to the ounce. The washing should continue until the fluid returns clear and odorless. As large a silk elastic catheter as will pass through the cannula is introduced, the cannula withdrawn, the catheter cut off about an inch and a half from the skin and fastened securely. The whole is then covered with a large, hot, "sloppy" linseed poultice. The cavity should be washed out night and morning and the poultices constantly applied till the purulent discharge almost ceases. If the cavity should rapidly refill with pus, another puncture is made a short distance from the first and another catheter introduced. This counter-opening, by facilitating the washing-out process, greatly expedites a cure.

A Case of Cerebral Surgery.—Felkin and Hare (Med. Chron., October, 1889) record this case with the desire to draw attention to certain points in the symptomatology of lesions interfering through local compression with the functions of the cerebral cortex and to show how a removal of the exciting cause may not only be followed by the restoration of lost or latent functional powers, but by profound changes in the trophic condition and growth of the peripheral regions corresponding to the cortical areas primarily affected. The case is also of interest with regard to the question regarding the influence of irritative or destructive lesions of the cortex upon the temperature of the corresponding areas of nerve distribution.

The patient came under observation at the age of seventeen years with this history: When she was ten months old a brick fell from the roof of a building upon her head, causing temporary insensibility, followed by great swelling and pain on the left side of the head. When the swelling subsided, about eight weeks later, paralysis of the right arm and leg was noticed. She appeared very stupid for two years and a half. She always walked with much difficulty, had little use of the right arm, and was subject to severe headaches localized on the right side, and to attacks of dizziness.

On admission, the patient's right arm and leg were badly developed and partly paralyzed. There was lateral curvature of the spine, due to the inequality in the length of the lower extremities, diverging to the left in the lumbar region and to the right in the dorsal, with elevation of the right shoulder. The temperature of the right upper and lower extremities was uniformly a degree and a half to two degrees and a half lower than that of the opposite side. The muscles of the right extremities were poorly developed, and in the lower extremity the bones were distinctly smaller than those on the left side. The patient was just able to pick up a pencil with the fingers of the right hand, had hardly any power of grasp, could bring her hand with difficulty within two inches of her mouth, and could not move her wrist joint. The right forearm was in semi-pronation, the thumb bent into the hollow of the hand. The absence of movement at the elbow and wrist joints was not due to mechanical difficulty. The biceps and supinators were less developed than the extensors and pronators; the triceps was relatively stronger than the biceps; the pectorals and latissimus dorsi were strong. The patient felt the arm to be numb and often cold. With her eyes shut she could not tell where she was touched on the right arm. The skin was much smoother than on the left and was mottled. The right radial pulse was the smaller. Very similar conditions existed in the right leg. The right patellar reflex was exaggerated, the right scapular rather better marked than the left, but the other reflexes were either slight or wanting on the right side. A large depression was plainly felt in the left side of the skull.

On operation, a large cyst was found occupying the fissure and pressing into the brain to the depth of two inches and evacuated. A bony growth from the inner table, extending half an inch toward the brain, was removed. During the operation the brain expanded until the cyst cavity was obliterated. Healing was complete on the twelfth day.

A month after the operation the temperature on each side was the same, the reflexes were equal, there was an improved power of walking and of use of hand, the patient could move her thumb, slightly supinate her forearm, and almost touch the back of her head. All sense of numbness and cold was gone, sensation had returned to some extent in both arm and leg, she could invert and evert her foot slightly, and her headaches and giddiness had disappeared.

Eighteen months later the improvement had been slow but marked. Massage and electricity had been daily applied. She had obtained a useful control of the right arm and leg, though not perfect, the spinal curvature was less, the temperature and the reflexes on each side were equal, sensation was almost equal to that in the left side, and the muscles were better developed. The patient was also much brighter and more intelligent than before the operation.

Erasion or Arthrectomy of the Knee Joint.—Wright and Collier (Ann. of Surgery, December, 1889) insist that the name arthrectomy should be applied to one particular form of operation, but that at present much confusion exists in its application. It has been applied to the simple laying open and scraping of sinuses, to the removal of large portions of diseased bone without interference with healthy synovial membrane, and to the removal of diseased synovial membrane when that was the only or the principal structure involved. But, in order that this term when used may convey a definite idea of what has taken place, they urge that its use should be limited to those cases in which the synovial membrane and the ligaments are the principal structures diseased and removed, and the bone or articular cartilage is involved only to a slight and subsidiary extent. The practice of calling an incomplete or mongrel operation an arthrectomy is protested against.

They give briefly the details of thirty-seven cases in which they have performed this operation, and, in spite of a number of failures, these seem to show that the operation is feasible, that it is applicable to the knee joint in certain cases, that it is not specially dangerous to life, and that it gives, when successful, a better limb than any other operation.

Fair trial should be made in every case of non-operative means to obtain a cure of the disease, and the length of this trial must be determined for each case separately before recourse is made to this operation; but this delay should not last until the disease is very advanced. When there is evidence of caseation taking place in the tubercular joint the operation should be immediately performed. It may be performed upon patients of any age, but is most practical in the young, because it does not cause arrest of the development of the limb, there being no interference with the bone about the epiphyseal lines.

They prefer the transpatellar opening of the joint by an incision from one condyle to the other across the patella, which is sawed or cut into two halves and turned upward and downward. The lateral ligaments are freely divided, and the whole of the anterior and lateral parts of the capsule, together with the semilunar cartilage and synovial membrane, are removed, including the whole of the upper synovial pouch and all of the synovial membrane and pulpy material about the patella and its ligament. The condyles, the crucial ligaments, and the upper end of the tibia are then cleaned of every particle of diseased tissue. Next, by flexion and rotation of the joint, all of the diseased synovial membrane and capsule at the back of each condyle and in the intercondyloid notch, as well as behind and between the crucial ligaments, is removed. If necessary, the crucial ligaments are taken away, but it is preferable to preserve them if possible. The whole of the semilunar cartilage and of the synovial membrane at the back of the joint must be carefully removed, as here diseased material is most liable to be overlooked, and here caseous foci and localized abscesses are often found. Any little pits or doubtful spots in the articular cartilage or bone must be gouged out or scraped, and care must be taken that all morbid material is completely removed. Careful asepsis must be observed throughout. After recovery it is necessary that the patient should wear for a long time an apparatus to prevent flexion at the joint.

The causes of failure of this operation they consider to be, in the order of their importance—1. Incomplete removal of disease. 2. Failure in maintaining asepsis. 3. Inability of the patient to repair the wound left by the operation. This is merely that common to all operations, whether conservative or radical.

Miscellany.

The Census Statistics of Special Classes.—The following circular, dated May 15, 1890, has been sent to members of the medical profession in the United States by Dr. John S. Billings, U. S. Army, in charge of vital statistics and statistics of special classes:

"Dear Doctor: I venture to ask your assistance in making the reports of the census, which is to be taken on the 1st of next June, as complete as possible in certain matters which are of special interest to the medical profession. Each census enumerator, in making a list of the living population, is expected to give the name, age, sex, color, occupation, and whether the person is insane, feeble-minded or idiotic, blind, deaf, dumb, crippled, maimed, lame, deformed, or whether so affected with acute or chronic disease or the results of injury as to be unable to pursue his usual business. It is quite certain that the enumerators' returns will only give imperfect information upon these latter points. Many persons will be unwilling to admit that a member of a family is insane, or feeble-minded, or a deaf-mute, even if such is the case, and the reports as to the kinds of sickness affecting persons will also be very unsatisfactory as derived from enumerators' returns. To remedy this, and to obtain as complete a record as possible of that portion of the population which is more or less physically imperfect or disabled, I ask every physician in the United States to fill out lists of names on the forms herewith inclosed and return them to this office, where they can be compared with the lists furnished by the enumerators. Will you please, therefore, fill out these lists for the persons of your acquaintance or in whose families you practice, giving the names, etc., of those you know to be insane, feeble-minded or idiotic, blind, deaf and dumb, sick, crippled, maimed, or deformed, and return these schedules in the inclosed envelope, which does not require postage? I have made the items called for as few as possible, in order to give you the least amount of trouble. It is essential to have the name, the sex, the color, and the approximate age, the place of residence, and also the name of the householder of whose family the person is a member, in order to identify the name on the enumerators' lists. If you can give the street and number, this will make it a very simple matter to identify. You need have no fear of duplication, by returning names which other physicians may return, because all returns from the same locality will be carefully compared, and all duplicate returns put aside. The special information called for on each of these schedules, which pertains more especially to the province of the medical man, is the one in which I am specially desirous of having your statement; that is, for the insane, the form of insanity; for the blind, the nature of the disease which caused the blindness, whether infantile ophthalmia, cataract, glaucoma, amaurosis, etc.; for the deformed, the nature of the deformity, the part or limb affected; those suffering from sickness or from the effects of injury, the nature of the disease or injury. I can offer no pecuniary compensation for the information thus asked, but can only appeal to you as a physician to furnish your quota of help toward making the statistics of the sick and physically defective in the United States more complete and more useful than they have ever been before. *All information which you furnish on these schedules will be considered and treated as strictly confidential. No names will be published, and only the total figures will be given to the press.* It is the intention of the Superintendent of Census to have these figures compiled and published at the earliest possible day. I hope that they will be published within a year after the receipt of the returns. It is also his intention to have them as widely distributed among the medical profession as the number of copies ordered printed by Congress will permit. For those physicians who furnish the information called for on the inclosed schedules, and who signify to me their desire to obtain a copy of the reports, when published, of the class to which one or more of these schedules refer, I will furnish their names and address to the Superintendent of Census with a recommendation that copies be furnished, when published, and I feel sure that he will comply with the request so far as the number of copies at his disposal will allow. Hoping that you will be able and willing to at once fill out and forward the inclosed forms of schedules, and assuring you that whatever information you may give will be highly appreciated and properly used, I remain, very respectfully, your obedient servant."

On the Action of Sulphonal.—In the Therapeutische Monatshefte for March, Dr. Franz, of Breslau, says:

Pertinently to the researches of Dr Knoblauch concerning the effect of sulphonal in diseases of the mind (Therap. Monatsh., 1889, p. 495), I may briefly relate here my own experiments upon the operation of sulphonal in surgical diseases. I have administered sulphonal Bayer to eighty-two patients, in about two hundred and sixty doses, and from these experiments, which were made to learn what injurious collateral effects sulphonal might have, have reached very favorable conclusions. In the cases in which only an agrypnia nervosa had to be dealt with, comprising twenty-six patients and eighty-six doses, sulphonal failed me only four times, and those all with the same patient. This patient was very anæmic, had pulmonary phthisis, and had been operated upon several times for tubercular abscesses. The patient declared, besides, that he could not sleep without morphine. In all the other cases the patients slept very well after sulphonal; and the sleep was, according to their representations, beneficial and refreshing. In no case had the patients any trouble from sulphonal; they did not complain of dizziness, or staggering, or headache, nor did any ataxic symptoms appear. Only the single patient (a morphine-taker), already mentioned, once had, after a dose of three grammes of sulphonal, somewhat marked delirium; otherwise he had no trouble. In one case we succeeded in weaning a moderate morphinomaniac from his habit by sulphonal. The maximum dose was in most cases one gramme. Somewhat larger doses had to be taken by patients who were suffering pain from wounds or other causes; with them a dose of two grammes was sufficient to produce in a short time healthful sleep. Only in five cases did sulphonal fail to remove violent pains, and then, indeed, in doses of only a gramme. In one case the pains of a violent supra-orbital neuralgia (following a phlegmon of the left half of the face) ceased after the administration of a gramme of sulphonal; with another patient toothache disappeared after giving sulphonal. In all these cases no headache, dizziness, ataxia, or other collateral symptom appeared.

Sulphonal also agreed well with all patients when given immediately after narcosis with chloroform. The pains, headaches, and vomitings that accompany the narcosis were not increased by it. No inconveniences followed the sulphonal; the numbness and the heaviness of the head after chloroform were in no case increased, but in many cases ceased. Sleep during the night following the operation was relatively not so good as in the other cases; but only three of the patients were unable to sleep; in the other cases the sleep was light and sometimes broken, but was otherwise generally good. Several patients averred that they slept better after sulphonal than after morphine, which was given them alternately with it.

Sulphonal had a marked effect with children, to whom it was given in seventeen cases in doses of from 5 to 8 centigrammes. Sound sleep soon came on, without any unfavorable symptoms being induced.

When did the effect of sulphonal appear? I must first remark that no patient who took sulphonal between 2 and 4 o'clock in the afternoon slept during the day, or till evening. In the other cases sulphonal was given between 6 and 8 o'clock in the evening, and sleep came on in the case of patients with agrypnia nervosa in the course of an hour, while with those who had violent pains or were still under the influence of chloroform, it generally held off somewhat longer. In a few cases a sound and healthy sleep did not set in till toward morning. I should mention that the sulphonal in all the experiments was given in wafers, so that the difficult solubility of the sulphonal may be responsible for delay in the patients' going to sleep.

I have never observed any ataxic symptoms in any of these cases, carefully as I have watched for them. They might perhaps follow larger doses of sulphonal; and it is possible that those symptoms would disappear on a corresponding diminution of the dose. In individual cases patients averred that they felt light headache or fullness of the head, which either existed before or disappeared shortly, without recurring. Vomiting occurred only once, with a patient who suffered from morning sickness. The breathing was always unrestrained, the pulse light. In no case was the digestion disturbed; and diarrhœa never ensued.

I never remarked any disturbances following a longer use of the drug; and the case of Dr. Steiner (cf. Therap. Monatsh., p. 460) is evidence of special value that a very long use of sulphonal is attended by no injurious results. I will add in conclusion that an American physician, Dr. George W. Rachel, expresses himself in the New York Herald very favorably concerning the marked effect of sulphonal. According to his view, it is of the greatest value to the physician in the treatment of sleeplessness and as a quieting agent in delirium. This is confirmed by an English colleague, Dr. Lauder Brunton, who expresses himself as follows in the Lancet of July 13, 1889: "Sulphonal shows itself one of the most efficient of the newer hypnotics; it does not force sleep, like morphine, but induces it in a pleasant way, and has little disagreeable effect, with little or no danger."

The Ohio State Medical Society will hold its forty-fifth annual meeting at Columbus, on the 4th, 5th, and 6th of June, under the presidency of Dr. J. McCurdy, of Youngstown. The following written communications are announced: Errors of Refraction and Muscular Adjustment as Causes of Nervous Phenomena, by Dr. C. F. Clark, of Columbus; Cleanliness in Eye Surgery, by Dr. B. L. Millikin, of Cleveland; Carcinomata Mammæ: their Early Diagnosis and Operation, by Dr. Dudley P. Allen, of Cleveland; A Further Study of Hernia, by Dr. A. W. Ridenour, of Massillon; Vaginal Extirpation of the Uterus for Cancer, with Report of Cases, by Dr. C. A. L. Reed, of Cincinnati; Vaginal Hysterectomy, by Dr. A. B. Carpenter, of Cleveland; Report of One Year's Work in Intrapelvic Surgery for the Relief of Inflammatory Diseases, by Dr. R. B. Hall, of Cincinnati; The Ætiology and Treatment of Pneumonia, by Dr. S. P. Deahofe, of Potsdam; The Surgery of the Knee Joint, with the Report of Cases of Excision and Erasion, by Dr. N. P. Dandridge, of Cincinnati; Report of a Porro Operation, and The More Frequent Use of Chloroform in Obstetrics, by Dr. J. F. Baldwin, of Columbus; The Rôle of the Microbe, by Dr. A. R. Smart, of Toledo; Common Mistakes in Medical Practice, by Dr. H. M. Brown, of Hillsboro; Do we take Cold? by Dr. H. D. Hinkley, of Oxford; Puerperal Fever, by Dr. G. H. Colvill, of Harrisville; The Treatment of Compound Comminuted Fracture, by Dr. S. L. McCurdy, of Dennison; Phlyctenular Keratitis, by Dr. C. W. Tangeman, of Cincinnati; The Epidemics of Diphtheria, Scarlet Fever, and La Grippe, at O. S. and S. O. Home, by Dr. C. M. Galloway, of Xenia; Acne: its Nature and Treatment, by Dr. W. T. Corlett, of Cleveland; The Influenza as seen in the Country, by Dr. W. W. Pennell, of Fredericktown; Indications for Internal Urethrotomy, by Dr. B. Merrill Rickets, of Cincinnati; The Treatment of Scalds and Burns, by Dr. A. H. Brundage, of Xenia; Cough: its Relation to Intranasal Disease, by Dr. A. B. Thrasher, of Cincinnati; A Case of Hæmatoma of the Ovary following Chronic Catarrhal Salpingitis, with Operation and Recovery, by Dr. R. Harvey Reed, of Mansfield; Exact Dosage in Electricity, by Dr. E. F. Wilson, of Columbus; and A Case of Labor at Full Term complicated by Placenta Prævia, by Dr. R. B. McCall, of Georgetown.

The Medical Society of the County of New York.—The Committee on Prize Essays, consisting of Dr. L. Bolton Bangs, chairman, Dr. Egbert H. Grandin, and Dr. Andrew F. Currier, announces that essays submitted in competition must be sent to one of its members on or before the 1st of October. The subjects are restricted simply to the field of what are called the departments of medical study. Other things being equal, preference will be given to essays that show original work on the part of the author.

The Medical Association of Central New York.—The meeting announced to be held on May 20th has been postponed to June 10th, in order not to conflict with meetings of certain other societies.

ANSWERS TO CORRESPONDENTS.

No. 319.—Address Messrs. George Tiemann & Co., Park Row, New York.

No. 320.—In our opinion, the method by electrolysis is preferable to all others, but some success has attended the use of other procedures, consisting for the most part in applying some irritant directly to the hair papilla by means of a needle passed into the follicle alongside the hair. With a mixture of 1 part of tincture of iodine and 9 parts of water, Dr. Heitzman succeeded in destroying fifty per cent. of the papillæ attacked; with a solution of 1 part of caustic potash in from 4 to 6 parts of water, he destroyed seventy-five per cent. The operation causes suppuration. Dr. Bulkley uses a three-cornered needle, by rotating which in the follicle he breaks up the papilla. The hair is withdrawn during the operation.

No. 321.—If the patient has had acne, that is probably the cause of the scars, and their further formation may be prevented by treating the acne. If they have not been preceded by other cutaneous lesions, they are probably maculæ atrophicæ, and nothing can be done to remove them, although they sometimes grow less perceptible in time.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE EDISON CURRENT
ADAPTED TO GENERAL OFFICE USE.

By HENRY G. PIFFARD, M. D.

The extensive introduction throughout the city of the Edison and other currents for incandescent lighting enables those who choose to introduce it into their houses and offices, and use it in many ways other than for simple diffuse illumination. As the Edison current is the one that passes my door, it is the one that I have found it most convenient to utilize; but the remarks that follow are applicable to any other continuous current of equivalent voltage. The current as supplied has an electro-motive force of one hundred and twenty volts. If the terminals or poles of this current are connected by a medium possessing a resistance of one ohm,* the current in circulation would have an intensity of one hundred and twenty ampères. Practically, however, this current is never permitted to circulate, as safety fuses or wires are intercalated at various points, which, as will be explained later, prevent the current exceeding a much smaller and definite intensity.

The factors which control the strength or intensity of the current are the electro-motive force of the generator, be it battery or dynamo, and the resistances that oppose the effort of the electricity to circulate. These relations were first determined by Ohm, who discovered the fundamental law which governs the matter, and expressed it by the following equation:

$$C = \frac{E}{R},$$

in which C represents the strength or intensity of the current at every point of the circuit, and is expressed in multiples or submultiples of the ampère,† which is the unit of intensity. E in the equation represents the volts, or unit of electro-motive force, of the electric generator, and R the resistance expressed in ohms. The equation, then, reads:

$$\text{Ampères} = \frac{\text{Volts.}}{\text{Ohms.}}$$

The ampères, then, indicate the strength of current that is in circulation at every instant of time, and constitute the force or energy at our command for the varied purposes for which we may desire to utilize it. It is simply a question of ascertaining how many ampères (or fractions of an ampère) are required to accomplish a certain purpose, and the introduction of suitable resistances into a circuit of constant and known voltage. The ordinary wiring for illuminating purposes introduces a resistance of, say, one ohm, and hence the possible current would be indicated by the equation:

$$\text{Ampères} = \frac{120\ (\text{volts})}{1\ (\text{ohm})} = 120.$$

Such a current, however, is never permitted to circulate, as the fusible wires will melt and break the circuit. These wires are made of varying capacity, some being capable of carrying a current of thirty ampères without fusing, while others will not bear a current of more than four or five. Except for illuminating purposes, there appears to be no advantage in having on tap, as it were, a greater current than the one last named; and the terminals, therefore, for the uses to be described should be protected by fusible wires or strips of this capacity. The available current, therefore, at the terminals can not exceed five ampères, and to use this current the resistance to be introduced must be equal to twenty-four ohms. If a less resistance than this were employed, the current would exceed five ampères, and the fusible wires would immediately snap and break the current.

If now it is desired to use the current for medical or surgical use, the positive and negative wires should be brought to some convenient point in the office, and arranged for the attachment of conducting cords.

The positive and negative wires should then be identified. This is readily accomplished by leading the current into a vessel containing a solution of iodide of potassium. In an instant electrolytic action will commence, and bubbles of oxygen and hydrogen will rise to the surface. In addition to this there will be a brownish discoloration of the water surrounding one of the poles. This is the *positive* pole and should be marked. All that is now necessary is to attach the professional equipment. If the plant is in a surgeon's office, the first thought perhaps would be to use it for galvano-cautery purposes. If the apparatus, conducting cords, handle, and knife are attached and the circuit is closed, snap will go the safety fuse, as the resistance will be vastly less than twenty-four ohms. If enough resistance is added to prevent this, the knife or platinum wire will not become heated, as the current strength will not be sufficient to do the work—that is, with platinum knives of good size. The only thing to do is to replace the safety fuse with one of greater capacity, say fifteen or twenty ampères, and regulate the resistance accordingly. The knife will now become heated, and all will go well unless the current should happen to be a trifle too strong for the metal and fuse it. When this occurs with a cautery battery with an electro-motive force of say ten or twelve volts, the divided ends of the wire will be nicely rounded off; but if it happens with a current having an electro-motive force of one hundred and twenty volts, a little pellet of molten platinum may separate and bury itself in the tissues. On prudential grounds, therefore, it is not wise to attempt to use the Edison current direct for galvano-cautery purposes. The only feasible and practical way is to use it indirectly through the medium of an accumulator or so-called storage battery. A "storage" battery is an apparatus in which it is said you can bottle up, as it were, an indefinite amount of electricity, and draw it off again in quantities to suit whenever needed, and in which you can carry about with you a steady supply of the mysterious and subtile fluid. The current from the dynamo is permitted to pass through the battery for several hours, and until it is charged "full" of electricity, ready for use on demand. This is pure fiction. As a matter of fact, you can pass the current through the storage battery for an indefinite number of hours, and there will be no more electricity in the box than when you commenced. The real effect of the dynamic current, however, is to produce certain physical and chemical changes in the material of which the battery is composed. Subsequently these chemical reactions may be reversed and give rise to an electric current.

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* The ohm is the unit of resistance, and is equal to the resistance of a column of mercury having a section of one square millimetre and a length of one hundred and six centimetres.

† An ampère is the strength or intensity of a voltaic current having an electro-motive force of one volt and, meeting a resistance of one ohm, is capable of liberating ·0000105 gramme of hydrogen from water in one second of time. A volt is an electro-motive force equal to ·926 of that of a standard Daniell cell.

The storage battery should not be directly connected with the terminals of the incandescent current, but only through a suitable resistance, say of from fifty to one hundred ohms. The smaller the battery, the greater the added resistance should be. To introduce this resistance into the circuit, any of the recognized forms of rheostat may be employed, but by far the cheapest and best arrangement is the introduction of an ordinary incandescent lamp into the circuit.

A sixteen candle-power Edison lamp has a resistance when hot which will reduce the current to a little less than half an ampère, which is a very suitable strength to employ in charging a small battery, while a larger one may be charged through the medium of a thirty-two candle-power lamp, which permits the circulation of a little less than one ampère. Incandescent lamps, suitably mounted for the purpose, may be obtained from any manufacturer of electrical supplies, but the maker of the storage battery should be consulted as to the size of lamp to be employed and the number of hours the current should be permitted to circulate. This supplants the more common way of charging through a primary battery of a dozen or more cells, and a storage battery capable of heating the heaviest knives in use can be fully charged by means of the incandescent current at an expense that is insignificant.

The storage battery, being charged, may then be employed for the running of miniature incandescent lights for diagnostic and other purposes about the throat, nose, ear, urethra, and bladder, for all galvano-cautery uses,* and for running small electric motors.

The charging of a storage battery at home in the manner described seems to the writer vastly more convenient than sending it out to be charged, or charging in the usual way with a constant battery of a dozen large gravity cells, which in turn require a certain amount of attention to keep them in good working order.

Turning now to the more strictly medical applications of the constant electric current, we shall see to what extent the dynamo current can be substituted for that of the ordinary galvanic battery.

The electro-motive force of the Edison current is about equal to that of one hundred and eleven Daniell cells, or say twice that of the largest cabinet batteries in general use. When a cabinet battery, or even a small portable battery, is brought into use, it is on rare occasions only that its full power is brought into action. As a rule, but a portion of the cells are brought into use, as the entire battery would give too strong a current for the intended purpose; consequently five, ten, or twenty of the cells, as the case may be, are brought into the circuit, and, by adding or subtracting one or more cells, we can readily obtain a current of the desired strength. If, for instance, we apply the moistened sponges to two points on the surface of the body and suppose that the combined resistance of the tissues, sponges, cords, etc., be equal to five thousand ohms, twenty Daniell cells with an approximate electro-motive force of twenty volts would give us a current of four milliampères. Thirty cells would give six milliampères, etc. The Edison current, however, with an electro-motive force of one hundred and twenty volts, would, under the same circumstances, give a current of twenty-four milliampères. A current of this strength, however, if applied to the skin through the ordinary sponge-covered electrodes of say one and a half to two inches in diameter, would be exceedingly painful—in fact, almost unbearable for any length of time. Supposing that a current of six milliampères is the particular strength desired, how are we to get it from the Edison current? The answer at once occurs to us: it is only necessary to bring into the circuit an additional resistance sufficiently great for the purpose. In the given case fifteen thousand ohms would be required. This, with the five thousand ohms presupposed, would give us a six-milliampère current. Taking the equation $C = \frac{E}{R}$, we shall have, in the case of the thirty-cell battery, $C = \frac{30}{5{,}000} = 6$ ma., and in the case of the Edison current, $C = \frac{120}{5{,}000 + 15{,}000} = 6$ ma.

The result in both cases is apparently the same; and every practical electrician and physicist whom I have consulted on the subject declares that the effects of the six-milliampère current will be identical in the two cases, and that it matters not whether the six milliampères are obtained through the medium of a low voltage with low resistance or a higher voltage with correspondingly high resistance. Medical experimenters are almost silent on the subject, from the fact that very few of them have been in the habit of using a current backed by an electro-motive force of one hundred and twelve volts. The writer, however, is not prepared to accept the dicta of the physicists on this point, so far at least as to the identity of effects on the living tissues is concerned. The utilization, therefore, of the Edison or other incandescent currents opens a field for electro-physiological investigation that should, I think, attract the attention of all those who have access to a constant supply of the stronger current. I believe the outcome of such investigations will show that for some purposes the low-tension current is to be preferred to the higher, but that in the majority of instances the latter will be found more useful, and, owing to its greater convenience, will be frequently utilized.

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* One of the early but very efficient galvano-cautery batteries was Middeldorp's; but this was extremely bulky and troublesome to transport. Some ten or twelve years ago the writer devised a cautery battery which, considering bulk, weight, and efficiency, has probably never been surpassed. In this battery the plates were of *platinum* and zinc. As the apparatus was not protected by patent, any one who chose could make it or imitate it. Some makers did so and debauched the quality and efficiency by substituting carbon for platinum, still selling the battery as the genuine article with my name attached, which was a fraud.

This battery was superseded for all, except loop, operations by the ingenious invention of M. Paquelin. This latter instrument, however, must in turn retire in favor of the storage battery. Of these there are a dozen or more in the market, varying in size, construction, quality, and efficiency, and each one warranted by its maker to be a little better than any or all of the others. Some of them we know to be trash. Under no circumstances accept one that has not an efficient rheostat.

In the matter of convenience we substitute a couple of binding posts or a lamp-socket for a cabinet or other battery, and are not obliged to give a thought or a minute's time to keeping them in proper condition for instant use.

Probably the vast majority of physicians in practice at the present time make or have made use of electricity in some form or other; most of them have confined themselves to the employment of the faradaïc current, while a very much smaller number are in the habit of using the galvanic. Of those who have used this latter, we believe that the largest proportion will declare that they have seen very little benefit from its use. I believe that this unfavorable verdict is in very great measure due to the fact that in nine cases out of ten the physician has used the current in a most hap-hazard way and without any knowledge or care as to the strength of the current employed. He uses five cells, or ten cells, or twenty cells, as the case may be—as much, perhaps, as the patient can bear without complaining of pain—but his mind rarely considers the actual strength of the current in circulation or the amount of electricity employed at a given application. When the writer first turned his attention to electricity this was all the physician could do, as at that time instruments of precision for the convenient measurement of the current were not obtainable. During the last few years, however, such instruments have been brought into use, and the physician who neglects to employ them is in exactly the same position as an apothecary would be who habitually put up prescriptions without using weights or measures. Guess-work should no longer be employed in the dosage of the constant current.

As already stated, the ampère is the unit of measurement of current intensity, and the storage battery will give us for surgical work a current of from five to fifty ampères. For medical applications, however, we deal with fractions of this unit, using perhaps two or three one-thousandths of an ampère in some cases, and as high as one hundred and ifty to two hundred one-thousandths in others. The intrument devised for the purpose of indicating the exact trength of the current in actual circulation is the milliampèremeter, with the aid of which the physician of to-day is nabled to employ the current with the same exactitude as he does the various drugs of the pharmacopœia. The milliampèremeter, it should be remembered, simply measures but does not regulate the strength of the current. This later is effected either by increasing or decreasing the voltage, he resistance being constant; or else, when the voltage is onstant (incandescent current), by using a suitable resistance in the circuit. Any form of rheostat will answer for this purpose, but the ordinary water rheostat is perhaps the most used. If now we combine a milliampèremeter and a rheostat we have an instrument that enables the incandescent current to be used with the same surety and safety as an ordinary battery and at less cost for outfit and running expenses, to say nothing of the release from the bother of keeping your battery in good order and working condition.

The arrangement above suggested will enable a current of from one milliampère up to be given, the strength of current being regulated with the rheostat and the character of the electrodes. When the strength of the current is five milliampères the resistances in the circuit must be equal to twenty-four thousand ohms, assuming the current has a potential or electro-motive force of one hundred and twenty volts.

This high potential enables us to greatly extend the range of therapeutical application, as it is equivalent to the potential of two large cabinet batteries joined together, and the writer has already found use for it in connection with certain cutaneous diseases and has been enabled to obtain results with it that he could not attain with the same ampère strength, but working with the lower potential of an ordinary battery.

If, however, we desire to reduce the current below five milliampères it is readily effected by introducing resistance coils into the circuit and bringing it down to two or three milliampères or less.

If now we attempt to use this lessened current for delicate operations about the face—as, for instance, electrolysis of hair follicles—we shall find that the pain is very much greater than we have been in the habit of observing when a current of the same strength obtained from a few battery cells was used. This effect was not expected, as writers on electro-physics state or assume that currents of equal strength as indicated by the ampèremeter are in every respect equivalent. The introduction into the circuit of coils of ten, fifteen, and twenty thousand ohms failed to make the current endurable, and the writer was forced either to abandon the use of the incandescent current for this purpose or else to find a way out of the difficulty. How this may be easily accomplished will be readily understood if the reader will bear in mind that it is simply a question of the introduction of the proper amount of resistance at the proper point in the circuit. Several practical electricians were con-

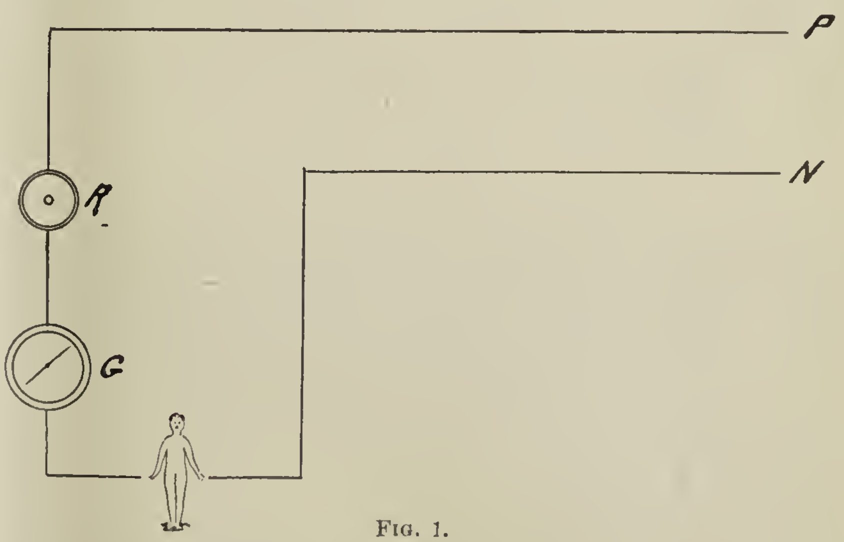

Fig. 1.

sulted on the subject, but failed to indicate just how the desired result was to be obtained.

If the reader will examine the following diagrams he will see how this may be accomplished. Let us first indicate the course of the current under the simplest conditions and as already indicated.

Fig. 1 indicates the course of the current, starting from the positive pole of the dynamo, passing through the water rheostat, then through the galvanometer, then to the positive electrode, thence through the body, and so on up to the negative pole of the dynamo.

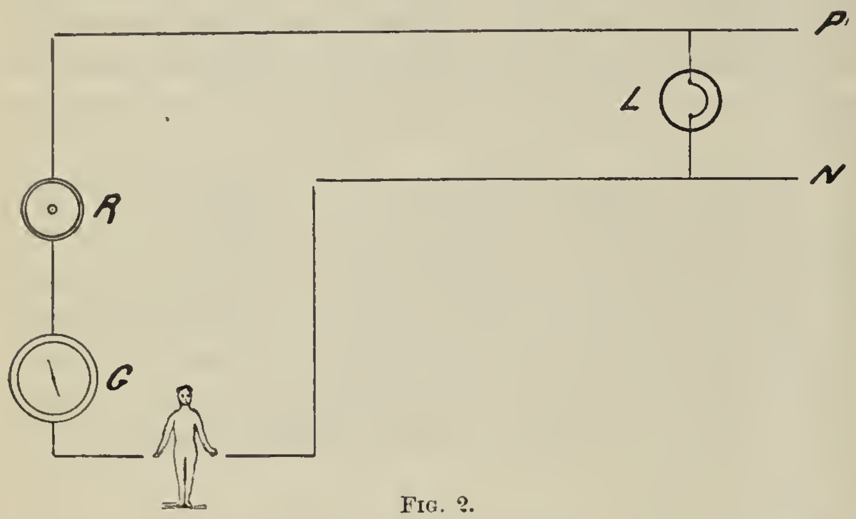

Fig. 2.

If we now introduce a sixteen candle-power incandescent lamp in the manner indicated in Fig. 2, the lamp will burn brightly, but there will be no *appreciable* effect on the current as indicated either by the galvanometer or the subjective sensation. If, for instance, the combined resistance offered by the rheostat electrodes and the position of the body included in the circuit is equal to ten thousand ohms, the galvanometer will indicate a current strength of twelve milliampères.

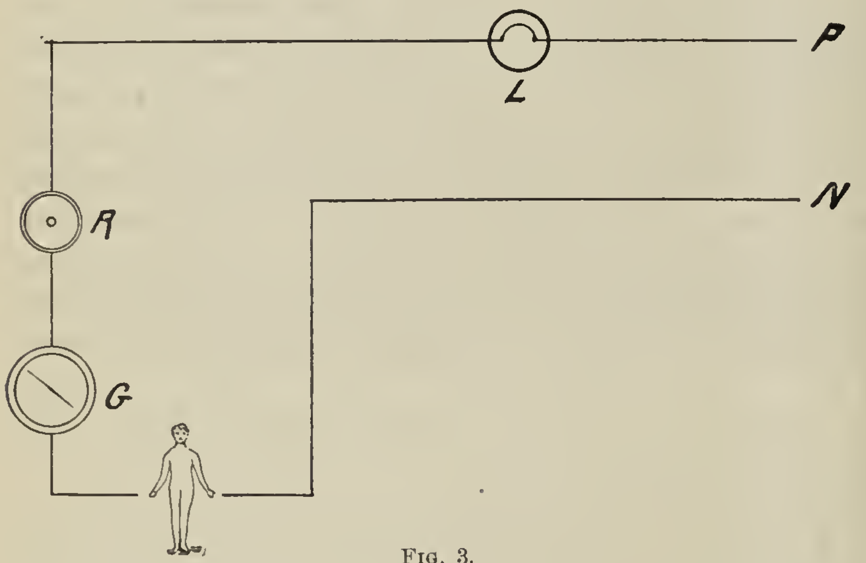

Fig. 3.

If we again introduce a lamp, and in the manner indicated in Fig. 3, we shall find that the lamp does not burn, and any difference in the strength will hardly be appreciable by the ordinary medical galvanometer, or by the feelings.

If, however, we take two lamps and arrange them in the circuit as shown in Fig. 4, we shall be on our way to securing the looked-for result.

In this arrangement we observe two lamps, Nos. 1 and 2, and that in No. 1 the two sides of the lamp are connected, while in No. 2 they are not. The course of the current leaving the positive pole of the dynamo is traced to lamp No. 1, then *through it* and down to and through the body, galvanometer, and rheostat, and up again to lamp No. 2, passing not through its carbon filament but through only one side of the lamp. With this arrangement we still find a current of twelve millampères, no difference in the sensations, and neither lamp is illuminated. In other words, there is no essential difference between this arrangement and the one shown in Fig. 3. We are supposing that both lamps are the ordinary sixteen candle-power lamps used in house lighting.

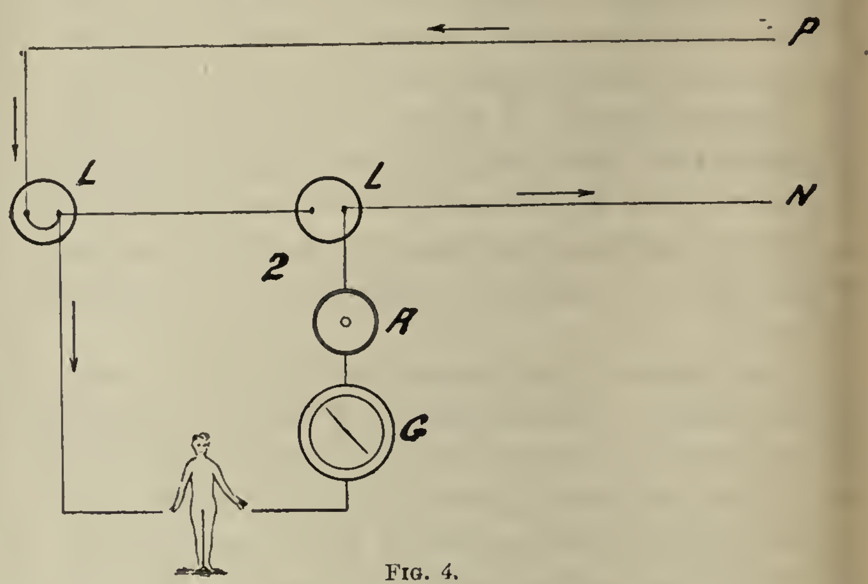

Fig. 4.

Let us now turn the key of lamp No. 2, thus bringing the carbon filament into the circuit. We shall immediately notice that the lamps have both become illuminated, burning with about half their usual brilliancy, and that the galvanometer indicates but six milliampères. If a thirty-two candle-power lamp is substituted for the No. 2 sixteen candle-power, the galvanometer indicates four milliampères, and a lamp of higher candle-power will reduce the strength of the current still further. Fig. 5 will indicate this arrangement.

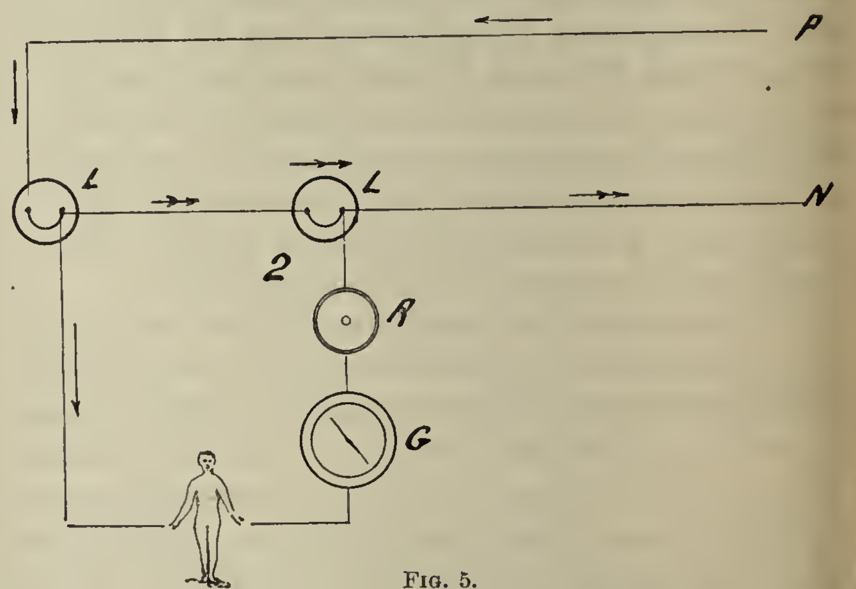

Fig. 5.

If we examine this diagram, we find that we have not the single circuit as before, but have provided two paths for the current to travel during a portion of its course between the poles of the dynamo. This we indicate by the single or double-headed arrows.

In other words, we have made use of a shunt, and have the body, the rheostat, and the galvanometer in the shunt current. As the resistances in this portion of the circuit have exactly the same disposition in both Figs. 4 and 5—namely, ten thousand ohms—there is but one way to explain the observed difference of strength of current. Recurring to Ohm's law—$C = \frac{E}{R}$—we have $E = C \times R$, or $E = 0{\cdot}006 \times 10{,}000 = 60$. That is, the electro-motive force in the shunt current is not one hundred and twenty volts, but only sixty (with a sixteen candle-power lamp); the voltage is reduced still further by the employment of lamps of higher candle-power. If an Edison "municipal" lamp, which has a still lower resistance, is employed, the electro-motive force is further reduced to about six volts—equal to that of about the same number of Daniell cells. It will therefore be seen that the incandescent current which enters your house under an electro-motive pressure of one hundred and twenty volts can be so divided that only the desired voltage need be employed, the greater part of the current going directly through the second lamp and without passing through the body of the patient to whom you are administering the electric dose. The actual current in the shunt or human circuit can be further modified in strength by the rheostat.

Having by experiment ascertained that the arrangement described answered every possible requirement, it only remained to assemble the several elements in a convenient form. This I have done in the manner shown in Fig. 6. In this arrangement the lower lamp corresponds to No. 1 and the upper lamp to No. 2 of the diagram. All of the several parts, however, could have been attached to the same horizontal plane had it not been that the rheostat at hand would not permit of such an arrangement. The form of the apparatus can doubtless be modified to advantage.

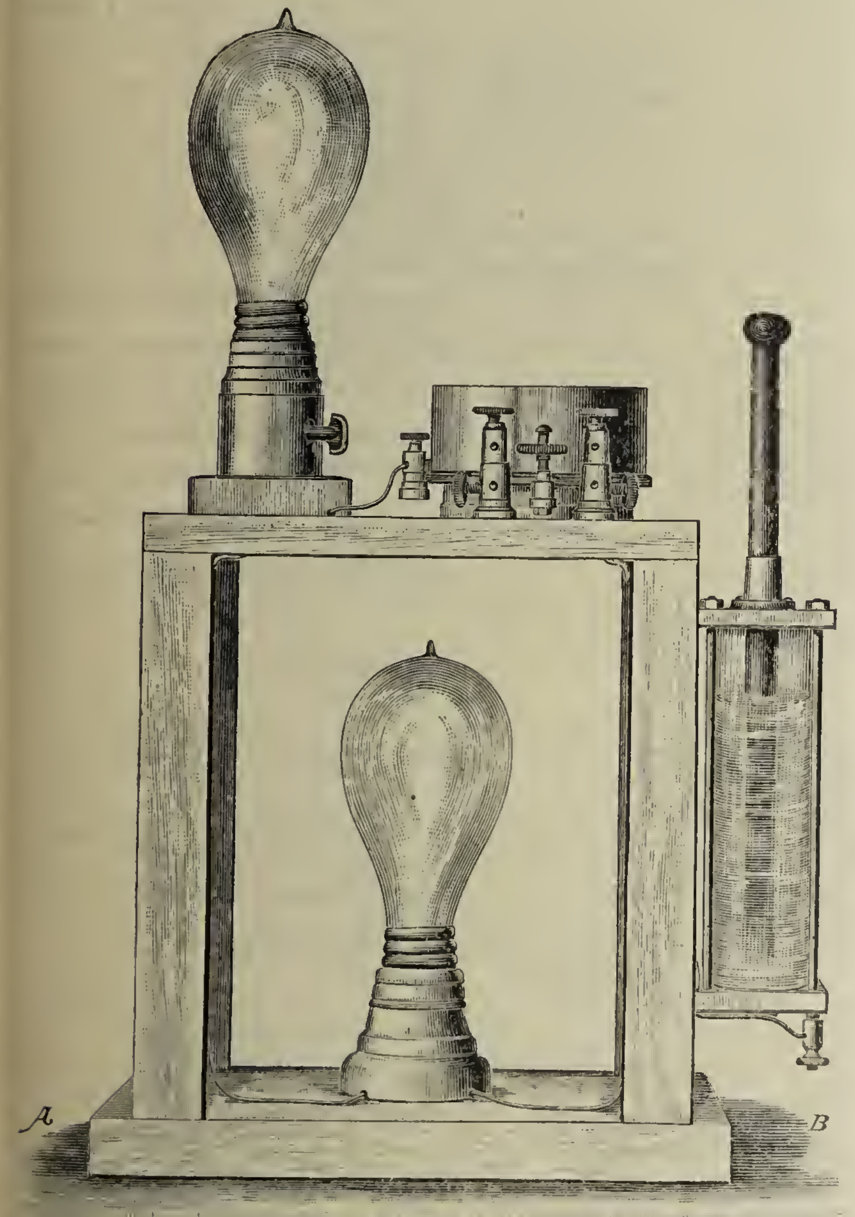

Fig. 6.

In this connection it is proper to state that Mr. E. A. Merrill, of the Edison Electric Light Company, suggested to me quite a different and, so far as the parts are concerned, apparently simpler arrangement, as shown in Fig. 7. In this the rheostat is transferred from the shunt to the main circuit, and performs the combined functions of both the rheostat and the No. 2 lamp of the other method. In this arrangement the current in the shunt is increased by separating, and decreased by approximating, the terminals of the rheostat, which is just the reverse of the ordinary method of operating this instrument.

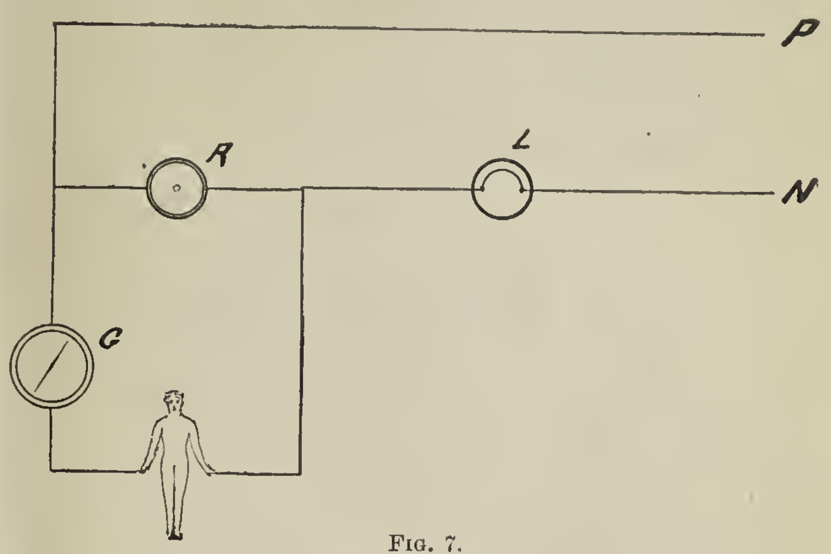

Fig. 7.

THE TREATMENT OF SIMPLE FRACTURE OF THE PATELLA BY WIRING.

By CHARLES PHELPS, M. A., M. D.,

SURGEON TO ST. VINCENT'S AND TO BELLEVUE HOSPITALS.

(*Concluded from page 605.*)

This completes the historical record of my experience so far as the data have been retained and so far as it seems useful to rehearse the facts at the present time. Twenty of these fractured patellæ with ossific union are before you for examination. In one case (X) you will be enabled to observe at the same time an instance of that very exceptional occurrence, union by bone without operation. The opposite patella had suffered previous fracture and had united, as I am informed, with very little retentive treatment. The same absence of effort at retention obtained in a case in which I procured osseous union at St. Vincent's some years ago, also without operation, and the post-mortem specimen of which is now in the museum at Bellevue. In such cases it seems that plaster apparatus and other labored appliances to hold the fragments in place are unnecessary. The few recorded instances of success have been gained in the simplest manner possible. If the anterior capsular fibers do not intervene, coaptation is maintained with very little trouble; if they fall between the fragments, in the usual manner, the most strenuous efforts fail of the desired result. I have some additional evidence bearing upon this point, but, as this matter is not directly germane to the subject in hand, I defer its consideration to some future occasion.

I append an analytical table which summarizes the more important facts in each case. In the immediate results, in deference to those who doubt osseous union under any cir-

No.	Sex.	Age.	Side.	Nature of violence.	Habits.	Physique.	Interval from injury to operat'n.	Complications.	Immediate results.	Definitive results.	Interval from operation to last observation
1	Male..	44	Right.	Indirect.	Intemperate.	Bad ..	12 days..	None.............	Firm union and good use of limb.	Bony union and perfect joint.	5 yrs. 4 mos.
2	“	44	Left..	“	“	“	19 “ ..	“	“	“	“
3	“	36	Right.	....	....	Good .	7 “ ..	“	“	Bony union........	2 mos.
4	“	29	Left..	Indirect.	Intemp....	“	10 “ ..	“	Bony union......	Flexion 15°; bony union.	2 mos.
5	“	35	Right.	Direct...	“	“	7 “ ..	“	Firm union and good use of limb.	Bony union and perfect joint.	4 yrs. 10 mos.
6	“	38	“	“	Temperate.	“	17 “ ..	Rupture of quad. extensor muscle.	“	“	4 yrs. 5 mos.
7	“	36	“	Indirect.	“	“	12 “ ..	None.............	“	“	4 yrs. 8 mos.
8	“	40	“	Direct...	Intemp....	Bad ..	6 “ ..	“	“	“	4 yrs. 1 mo.
9	“	32	Left..	Indirect.	Temperate.	Good .	10 “ ..	“	“	“	4 yrs. 6 mos.
10	“	40	“	Direct...	....	“	7 “ ..	“	“	“	4 yrs. 5 mos.
11	“	25	“	....	....	“	11 “ ..	“	“	“	5 mos.
12	Female	33	Right.	Indirect.	Temperate.	“	14 “ ..	Local poisoning by hyd. perchlor. dressing.	“	“	3 yrs. 10 mos.
13	Male..	42	Left..	“	Intemp....	“	10 “ ..	None.............	“	“	3 yrs. 11 mos.
14	Fem..	48	Right.	“	“	“	12 “ ..	Local poisoning by hyd. perchlor. dressing.	“	Bony union; flexion 90°.	3 yrs. 8 mos.
15	“	40	Left..	“	Temperate.	Bad; tobac'o heart.	19 “ ..	None............	“	Bony union; perfect joint.	2 mos.
16	“	33	Right.	“	“	Good .	15 “ ..	“	“	“	2 yrs. 2 mos.
17	Fem..	24	“	“	“	Obese.	23 mos...	“	“	“	2 yrs. 11 mos.
18	“	24	Left..	“	“	“	32 “ ..	“	Fragment could not be coapted.	Ankylosis and str'ng limb.	2 yrs. 11 mos.
19	Male..	66	Right.	....	“	Bad ..	14 “ ..	“	Bony union and good use of limb.	Bony union and perfect joint.	6 mos.
20	Fem..	30	Left..	....	....	Good .	13 “ ..	“	“	Flexion 40°; bony union.	2 mos.
21	Male..	83	“	Indirect.	Temperate.	Bad ..	11 “ ..	“	“	Bony union........	1 mo.
22	“	54	Left..	....	....	Bad ..	11 days..	“	Firm union and good use of limb.	Bony union; flexion beyond 90°.	6 mos.
23	“	40	“	Indirect.	Temperate.	Good .	12 “ ..	“	“	Bony union and perfect joint.	2 yrs. 4 mos.
24	“	32	Right.	“	“	“	10 “ ..	“	“	Bony union; flexion nearly 135°.	2 yrs. 4 mos.
25	Fem..	39	Left..	“	“	“	11 “ ..	“	“	“	2 yrs. 2 mos.
26	Male..	54	Right.	“	Intemp....	“	11 “ ..	Non-union of a previous fracture of same patella.	“	Bony union; flexion still limited.	3 mos.
27	“	54	“	“	“	“	Same day.	“	“	Bony union; flexion beyond 90°.	1 yr. 10 mos.
28	Fem..	35	“	“	....	“	13 days..	Local poisoning by hyd. perchlor. dressing.	“	Bony union; flexion 90°.	1 yr. 10 mos.
29	Male..	25	Left..	“	Temperate.	“	5 “ ..	None.............	“	Bony union and perfect joint.	1 yr.
30	“	48	“	....	Intemp....	Bad ..	14 “ ..	“	“	“	1 yr.
31	Fem..	54	“	Indirect.	Temperate.	“	24 “ ..	Typho-malarial fever and phlegmonous erysipelas.	“	Bony union........	6 mos.
32	Male..	43	“	Direct...	Intemp....	“	10 “ ..	Periostitis.........	“	Bony union and perfect joint.	1 yr. 4 mos.
33	“	43	Right.	“	Beer-drinker.	“	12 “ ..	Septicæmia and diffused inflammat'n.	Bony union......	Bony union and ankylosis.	1 yr. 4 mos.
34	“	34	Left..	Indirect.	....	“	14 “ ..	None.............	Bony union & good use of joint.	Bony union and perfect joint.	7 mos.
35	“	45	“	“	Intemp....	Good .	13 “ ..	“	“	“	1 yr. 2 mos.
36	“	21	Right.	Direct...	Temperate.	“	10 “ ..	“	“	Bony union; flexion 30°.	1 yr.
37	“	28	“	Indirect.	“	“	11 “ ..	“	“	Bony union; perfect joint.	10 mos.
38	“	30	“	Direct...	Intemp....	Bad ..	146 “ ..	Periostitis.........	“	“	8 mos.
39	“	35	Left..	Indirect.	....	“	58 “ ..	None...	“	Bony union; flexion 45°.	5½ mos.
40	Fem..	55	“	“	Temperate.	“	27 “ ..	“	“	Bony union; perfect joint.	5½ mos.
41	Male..	45	“	“	“	“	7 “ ..	Extensive rupture of the quad. extensor muscle.	Bony union; flexion not begun.	Bony union; flexion not yet begun.	5 mos.
42	“	21	“	“	Intemp....	Good .	7 “ ..	None.............	Firm union & good use of joint.	Bony union and perfect joint.	4 mos.

cumstances, I have limited myself to a statement that union was firm, though in almost all cases I have personally had no doubt of its osseous character even at that early period. In the definitive results, to avoid repetition and to economize space, I have made the phrase *perfect joint* stand for movable cicatrix, laterally movable patella, full extension of the knee, and flexion to about one hundred and thirty-five degrees or more, together with full use of the joint for all purposes.

I have not noted in this table the comminution which has sometimes existed. I have mentioned in the histories, however, three cases in which the patella was broken into a number of pieces of considerable size. In many additional instances in which one or the other of the two primary fragments has been split horizontally, or has had a small portion chipped off, that circumstance has been disregarded in description because of no particular significance. In all cases of comminution, even those in which it is most extensive, there is a primary transverse fracture, with the usual retraction of the upper fragment. I have never seen a fracture which could be properly called stellate. Wiring, therefore, eventually becomes as necessary for perfect restoration of the bone in this as in the simple form of injury. A neglect to observe this primary form of comminuted fracture, or rather an inability to discover it without incision, has led to an erroneous idea of the probability of its osseous union by ordinary methods.

I have also failed in this table to abstract from the histories the fact that in four cases (III, XIV, XVIII, and XXXIII)—nearly ten per cent. of the whole—there had been previous fracture of the opposite patella with ligamentous union. In only one of my cases (XXVIII) has there been subsequent fracture of the opposite bone. This seems to indicate that in this fracture false union is a source of danger to the other limb. In Cases XXVI and XXVII there existed a still ununited fracture of long standing of the same patella, which, like the false union in the previously mentioned cases, had probably much influence in determining the later fractures for which I operated. In Cases XIII, XXX, and XXXV the amputation of the opposite limb may have also acted as a predisposing cause of fracture.

The statistics of fracture of the patella here collected, aside from the results of treatment by incision of the joint and use of the silver wire, do not require special analysis. It will suffice to observe that it usually occurred in adult life, that it was often complicated, and that the subjects were very frequently of intemperate habits, and, as a rule, intoxicated at the time of the accident. It is noticeable that intoxication was no protection by reason of muscular relaxation, and that alcoholism did not prejudice the result.

I believe that the brilliancy and superiority of the results of this operation, when successfully performed, are now generally conceded. At the same time I am aware that there are surgeons whose opposition is still bitter, and who are illy disposed to recognize even those facts which are matters of demonstration. There is still reason, therefore, to insist upon what has perhaps been proved already and to reiterate the conclusions which logically follow, and I feel that I ought, though it seems almost a work of supererogation, to restate the advantages and to again inquire into the alleged dangers of this treatment. I shall do this, even though I may have nothing new to offer, save an additional experience, which is always of value so long as an opinion remains unsubstantiated or a fact unadmitted.

The results in my own cases, which are in general confirmed by those which I have seen in the service of my colleagues, seem to establish the reverse of about everything which has been charged to the discredit of the operation. The most serious objections which I have heard made to its performance, and they are quite serious enough, are that it is liable to result severally in—

1. Ligamentous union.
2. Necrosis and rarefying osteitis.
3. Ankylosis.
4. Suppuration in the joint.
5. Death of the patient.

1. I had supposed until quite recently that there was no longer doubt in any mind of the reality of osseous union. I have described forty out of the forty-two of my cases as terminating in this way. These include all those which were of recent origin. The two others were of long standing, and coaptation or even moderate approximation was impossible. The persons I have exhibited here this evening will, I think, enable me to rely upon your evidence that, in so many instances at least, my opinion of the nature of the consolidation has been correct. The remaining cases, with scarcely an exception, have been brought to the notice of some one or more of my colleagues who has concurred in my estimate of the result. I think I can discriminate between soft and osseous union at a very early period, as soon as the swelling and œdema of the superincumbent soft tissues have subsided—often in one month, usually in two months—and I have very rarely, if ever, differed in opinion from others who have examined the cases. I do not see why any greater difficulty should exist in this particular instance than in fractures in general. The patella is subcutaneous; it should be laterally movable very early, and we ought to be able to appreciate the yielding of the fragments in false union here with the same facility and certainty with which we confessedly do it elsewhere. I shall assuredly require some evidence to convince me that I am deceived by my senses other than the fact that somebody else has some time mistakenly pronounced a fractured patella united by bone. So far as it is to be a question of opinion I shall leave these cases to your own decision. It happens, however, that in various ways other evidence of osseous union after wiring is occasionally afforded.

In Case XIII of the series recorded in this paper, operation was done on May 12, 1886, and I became satisfied of osseous union. Nearly thirty-one months afterward I again operated upon the same patella, not for refracture, but for a second fracture in another part of the same bone, and I was enabled by subcutaneous examination to confirm the ossific character of union in the primary fracture.

In Case XXVI I operated on February 10, 1888, and in six weeks I was satisfied in my own mind that union, which was unquestionably immovable, was also bony. Just three months after the first operation (May 10, 1888) I again wired the same patella for a refracture. The line of refracture was obviously through firm and well-developed bone. In May, 1889, this man unfortunately sustained still another fracture of the same patella, and it was wired by Dr. Robert Abbe. While not uncovering the line of former fracture, Dr. Abbe was satisfied in the progress of his operation that bony union had occurred.

In Case XXXIV I wired the patella on December 14, 1888, and in due time was convinced that union was by bone. On September 6, 1889—nearly nine months later, and after the full function of the joint was restored—I operated for refracture. As in Case XXVI, there could be no doubt that the second fracture was through well-developed bone.

In Case XXXVI, where the fracture was extensively comminuted and one fragment was removed altogether, operation was done on April 18, 1889. A little more than three months later (July 28th), in an effort to make forcible flexion, the patella was refractured. The snap with which the bone gave way and the characteristic sensation communicated to the hand of the operator were sufficiently convincing of the ossific character of the union which was so unfortunately destroyed. I am glad to say that he has regained osseous union and that I have been able to submit him to your personal examination.

In Case XXXI, where death occurred from cerebral disease six months after operation, the patella was examined post mortem, and osseous union proved by accidental postmortem refracture.

Case XXI is the most interesting of the series in this connection. Death occurred from an accidental bronchitis in a man enfeebled by advanced age (eighty-three years) one month after operation, and after the wound was completely healed and the patient quite recovered. The intervening tissue by which the fragments had become united presented all the gross characteristics of bone, and microscopical examination confirmed its osseous character. This was shown in the course of the history as previously recorded. If the age and condition of the patient and the little time that had elapsed be considered, it is a striking example of repair.

The strength and permanence of the ossific union after it has become well established are as unquestionable as the fact of its existence. There are evidences that it is often stronger than the remainder of the bone. In Case XIII the second fracture at no point involved the first, and again in Case XXVI the third fracture of the lower fragment of the original injury was distinct from the second; and in both cases the later operation did not disclose even the wire which still remained, and which at the present time is still *in situ*. Though the second fracture in Case XXVI—second in the modern series of this unfortunate patient—was a refracture, it is to be borne in mind that it occurred at a very early period, while the cicatrix was still inflexible and from great violence sustained by a man in a helpless condition. The cicatrix was torn open, and it has been somewhat hastily alleged that refractures after wiring are always compound. If refracture occurs shortly after the operation, this is likely to be the case, because the cicatrix in the soft parts is still adherent to the bone. In the rare instances in which the accident occurs at a later period, as in Case XXXIX, seven months after operation, the fracture will be simple because the cicatrix will be movable. In Case XXXVI I can personally testify to the very considerable force required to refracture the bone, even while by the fixation of the upper fragment the end of the femur acted as a fulcrum. I am confident the line of fracture was determined by the relation of the fulcrum to the patella rather than by comparative lack of strength in this situation. In Case XXXIX, the only instance of refracture in which a considerable period (nine months) had elapsed from the time of consolidation, I have no means of deciding whether the bone was intrinsically weaker at that point in consequence of the primary fracture, or whether it was explicable from the manner in which violence was applied.

The strength of this union in general is manifest in the fact that so many of the subjects are men of laborious occupations who resume their labor at a time when patients treated by other methods are still in bed or, at best, on crutches. Cases IX and XXXVII—one a cooper, the other a truckman—are remarkable instances. Both men were at work within six weeks from the time of operation, and have so continued ever since. Two weeks later the truckman fell from his truck and forcibly broke up the adhesions in the joint, and continued in his occupation without further inconvenience. Another truckman (Case XLII) went to work in two months, and many others have done so during the third month. In several instances the patients have walked as early as from seventeen to twenty-one days after operation, though it has not been done with my consent, and in the most favorable cases I now retain the posterior splint for a month in order to keep them longer under control.

A sufficient time has now elapsed to fairly estimate the stability as well as the completeness of the cure in a very large proportion of the cases. In more than thirty I have been able to examine their condition after an interval varying from one year to more than five. In cases of false union and non-union it is difficult to set a limit of time when the condition of the limb is no longer liable to change. Ligamentous fibers in this situation and thickened aponeurotic and synovial membranes are always susceptible of alteration. Bone is a permanent structure, and, aside from injury and constitutional disorders, can be trusted when the adjacent parts have resumed their normal relations to it and to each other. In this view I have regarded the mobility of the cicatrix as essential to the perfection of the joint. The manner of formation of the new bone by direct transformation of the blastema, and not through an intermediate structure, very much shortens the time in which the case may be considered finished. It is absurd to insist that we can only become positive in regard to the condition of a once fractured bone after death or the lapse of many years. Two months is as sufficient time for a patella as for a tibia in which to determine either the nature of the union or, if it be bony, the question of its permanence. I am well assured that the fragments of a fractured patella invariably unite by bone when they have been brought into more or less complete apposition and wired together after the removal of intervening fibrous tissue. I am equally assured that a few weeks' time will always suffice to substantiate the nature of the result.

The certainty of osseous union is the natural sequence of the operation, and could be readily predicated upon the condition disclosed by inspection of the joint. It was only from the time that wiring began to be practiced that the most important obstacle to ossific union was appreciated. Mobility of the fragments, lack of vascular supply, and want of coaptation, were variously supposed to account for the defective result, and though interposition of soft parts was recognized as an effectual preventive of union in fractures generally, it did not seem to occur to writers as applicable to the patella. In every primary fracture, as I have already stated, I have found the longitudinal aponeurotic fibers which cover the bone interposed to a greater or less extent between the fragments. In those fractures which have occurred from direct violence it has been as evident and as invariable as in the others. In the two cases of refracture, however, upon which I operated, this condition was not present. In the refracture which I accidentally produced I acted upon this experience, and, the fragments being in apparent apposition, I at once put the knee in plaster, without operation, and obtained osseous union. These cases are perhaps too few for generalization, but I am confident they will prove to be representative of a general law such as I have indicated. I have regarded these interposed aponeurotic fibers as a factor so important in the treatment and prognosis of fracture of the patella that, when a distinguished gentleman spoke of them with avowed contempt, I was simply astounded. It seemed to me he might as well have spoken disrespectfully of the equator. I had certainly supposed them to be universally held in the highest respect, and I can hardly doubt that I am in accord with general opinion in believing that, here as elsewhere, the intrusion of the soft parts between the fragments is a very positive and almost unfailing obstacle to bony union. If it be considered that the patella is a bone of great vascularity, and that close approximation and complete immobility are often easily maintained, the usual result, ligamentous union, is almost incomprehensible upon any other hypothesis. If it be true that these undisturbed fibers are the efficient cause of the false union which usually results, even when coaptation is possible, no mode of treatment short of incision of the joint can ever afford the desired union by bone. So far as I can learn, no other treatment, operative or otherwise, ever has done so except in the rarest instances.

It may be remarked that possibly but one or two post-mortem specimens exist which proves osseous union to have taken place without operation by wiring, while so many are beginning to appear which demonstrate it after wiring that they have ceased to attract attention.

2. I have had no knowledge of consecutive osteitis and necrosis. I suppose it must happen, for I am told it has been regarded as a common result. If it should occur along the course of the wire, I should be inclined to attribute it to the use of wire of ordinary quality, carried through an opening a good deal too large for it. I have been careful to make the drilled canal so small that the wire will quite fill it. I obtain wire of the largest size which is drawn for surgical purposes, and make sure that it is of pure silver, and therefore quite soft and flexible. Under such circumstances I doubt if any serious trouble of this nature is likely to ensue. General osteitis and necrosis of the bone can hardly result from the operation unless extensive inflammation and suppuration have intervened. If that suppuration has involved the joint cavity, the osteitis will be lost in the general disaster. In superficial suppuration sufficiently early and vigorous treatment ought to avert danger to the bone. I have had, as previously stated, two cases of extensive superficial suppuration, and in one septic inflammation of the adjacent parts was as severe and unmanageable as well could happen; but in neither was the bone involved to any appreciable extent. In the three cases in which there was poisoning of the surface of the limb by aseptic dressings, and consequent suppuration of the wound, the surface of the patella in each became exposed. In two of them, however, the bone was re-covered and the wound healed without interference or exfoliation. In the third the bone was scraped, but without apparent necessity. As an independent source of trouble or menace of danger it seems to me of small importance, and worthy only of brief consideration.

3. There is another possibility of trouble, an imperfection of result, which will always demand the surgeon's attention, and is often the source of serious embarrassment in the attainment of an absolutely perfect joint. I consider the question of false ankylosis prior to that of suppurative arthritis, as the latter so often involves whatever danger to life the patient may incur, and with which the consideration of the whole subject may properly be closed.

It is only in exceptional and complicated cases that there is danger of ankylosis to a sufficient degree to compromise the usefulness of the limb or to make the result fairly comparable to that which obtains in the average of those treated by other methods. In but one of my completed cases—the one complicated by septicæmia, with diffused inflammation of the whole limb—is the joint now ankylosed, and in that one I consider the defect still remediable. Though the patient was confined to his bed for a period of nearly six months, I was able at the end of that time with moderate force to make complete flexion. He was still in a hospital atmosphere and, as it proved, with the same disposition as before to exaggerated inflammatory action from apparently inadequate causes. The result was that he went home after another attack of unhealthy inflammation of the whole limb, not much the better for his forcible flexion. It is not strange that I was indisposed to repeat the experiment until after some interval of time, or that the patient is slow to believe that his constitutional condition will admit of it even now or at any other time. He contents himself with a knee which can only be slightly flexed, as he is as fearful of moving it himself as he is of surgical assistance.

In Case XLI, in which the quadriceps extensor muscle was so extensively ruptured, there was the same disposition to unhealthy cutaneous inflammation, and my previous experience has warned me to defer much effort at flexion, on his part or mine, till a considerable time has elapsed. He is still under observation, and I have no fear that he will not eventually regain a practically perfect joint.

The result in such an exceptional case as that first mentioned is perhaps not wholly or directly chargeable to the operation. It is less than probable that the depraved constitutional condition which rendered my forcible flexion nugatory was due to his previous septicæmia. It was more conceivably an inherent defect due to causes antedating his injury and which might have made him as intolerant of plaster of Paris as of the processes to which I subjected him. I am quite willing to admit, however, that it is a very indifferent result obtained by wiring.

In the management of ordinary cases I have at different times held somewhat different views as to the best course to pursue to obtain the greatest freedom of motion with the least delay. There is no doubt that, left entirely to themselves, patients will usually acquire in time full flexion of the joint, but perhaps not for a considerable period. They can do it in all such cases if they will. I have learned from them, however, that there is scarcely a practical purpose in life which they can not accomplish with flexion of one knee carried to not more than 90°, and they are prone to stop at that point. In three of my tabulated cases in which flexion is limited to that degree the patients have not hesitated to tell me in so many words that if the knee suited their purposes they saw no reason for subjecting themselves to further inconvenience to gratify me. As this was not quite satisfactory, it seemed proper to inquire to what extent radical cure might be hastened by forcible flexion. Extension, of course, with osseous union ceases to be in question. I have not yet arrived at definite conclusions, but am positive that under certain conditions forcible flexion is a safe and valuable adjuvant. In one instance, it is true, I produced a refracture, and in another I excited general inflammation of the whole limb, but from both I have learned a valuable lesson in experience. I have learned, not that this procedure is radically unsafe, but that there are circumstances under which its employment is improper, and which it is our business to discover and appreciate.

I think it safe, at least, to recommend, in all cases, lateral movement of the patella at a very early date. We have learned that firm union is established within two weeks. At the end of the third week the fragments can be firmly grasped and crowded together at the same time that lateral movement is gently imparted to the whole bone. It is easily done and, in my opinion and experience, is absolutely without danger. This can be repeated every second or third day. It greatly facilitates early locomotion and resumption of labor, and greatly diminishes the chance of refracture from trivial accident while the case is still recent. It also facilitates passive or forcible flexion later, and adds to the safety of the patient in case of sudden forcible flexion by accident. In each of my cases of comminuted fracture in which from the great disruption of the bone it seemed best to keep the knee at rest beyond the usual period, the fixation of the patella led to great subsequent difficulty in re-establishing the movements of the joint, and to the refracture in Case XXXVI. So far as I can judge from my experience up to the present time, forcible flexion of the joint should not be attempted where lateral motion of the patella has not yet been established, where a disposition to unhealthy inflammation has been evinced subsequent to the operation, where there is much thickening of the superficial parts about the knee with or without periostitis of the adjacent extremities of the femur and tibia, or where the resistance is obviously too great to be safely overcome. In all these cases the patient must be left, under instruction, to his own efforts to regain motion, and the question of interference deferred to a more favorable opportunity if it should eventually become necessary. On the contrary, where the patella is laterally movable, where the patient's constitutional condition has been approved by his entirely satisfactory recovery from operation, where the soft parts about the joint are normal, and where no appreciable periostitis or arthritis exists, there is appreciable advantage in making moderate forcible flexion under ether at proper intervals. In the last case of my series lateral movement of the patella was begun on the twentieth day. At the end of the month he had flexion of 20°. During the second month flexion was made under ether on three occasions and carried to 135°. He was then discharged, and in a few days resumed his occupation as a truckman. Only moderate force was required and there was no inflammatory reaction. It is often possible where resistance is great to hasten absorption of restraining tissues by occasionally putting a strain upon them under ether without attempting their disruption.

I am not aware that any special effort to hasten mobility of the joint after wiring has been heretofore advised. The necessity of as speedy restoration of function as possible to laboring men, who are the usual sufferers, and their indisposition to help themselves, has led me to believe that it was justifiable to make some attempt in this direction. The result has been encouraging in all cases except in those of the two unfortunates to whom I have more than once alluded, and in them no material harm was done. It is not necessary to resort to such measures in order to avert ankylosis. In case of my earlier patients nothing was done beyond ordinary passive motion, and in all those whom I have had an opportunity of re-examining the mobility is either perfect, or as free as they have thought it worth while to make it. I have simply spoken of this interference as a practicable means of hastening the attainment of the best possible results.

4. If by any chance suppuration occurs in the joint cavity, the patient may escape with his life, and even with a fairly good joint. It is more probable that an ankylosis will remain, which greatly impairs the usefulness of his limb. It is always, however, an accident fraught with the gravest possibilities of evil, and the patient may readily be brought face to face with that danger to life which we are so constantly reminded awaits all those who submit to the wiring of their patellæ. I must again confess to want of practical knowledge and experience in referring to an approved accident in this operation. I have never had a drop of pus in the cavity of the knee joint, either after wiring simple fracture of the patella, or in any other operation in which I have had occasion to incise that cavity under favorable con-

ditions; nor has it occurred in any similar cases of which I have had personal knowledge. I am free to admit the gravity and danger of this mishap when it occurs, but it seems to me it ought *not* to occur. The anatomical conditions for careful operation, aseptic care, and drainage are peculiarly favorable. The synovial membrane is of comparatively small extent and not specially disposed to resent intrusion or necessary manipulation. In fact, the territory of synovial membranes has in general afforded the most successful field of aseptic surgery. As regards direct infection of the joint, it is simply a question of the sufficiency of aseptic precaution. The chief liability to purulent synovitis comes from an extension of superficial suppurative inflammation through contiguity of tissues, or by the entrance of pus into the synovial cavity. Superficial suppuration is sometimes inevitable, but its extension to the joint ought to be preventable. I rely, as a means of avoiding primary purulent synovitis, upon free incision of the synovial cavity in the operation so that it may be thoroughly cleansed by irrigation, upon abstention from unnecessary manipulation and handling of the structures of the joint, and upon strict asepsis. I defend myself from subsequent invasion from without by the use of deep sutures and by precision in their application, so that the cavity of the joint is absolutely isolated from all the superficial structures as heretofore described. The necessity of early incision, free drainage, and other resources of treatment in superficial suppuration hardly require mention. These means have proved adequate for protection, though in the two cases of extensive suppuration which have been described the test was severe. It is true, no form of operation is void of danger—not even that for the relief of strabismus. The unexpected sometimes happens, and by carelessness or ill-fortune purulent arthritis may confront us.

Even then, from what little I have learned, the fatality is less than has been supposed. If the patient has not already become septicæmic, there seems to be warrant for saying that both life and limb may be made reasonably safe. I do not mean to infer that the early cases of suppuration of the joint of which we hear were necessarily a reproach to the surgeon in either origin or result, but asepsis then was very different from what is demanded at present, and we arrogate nothing to ourselves in refusing to be bound by older precedents. In the very valuable contribution of Dr. F. S. Dennis* to the literature of the operation, in which he has anticipated much of what I had to say, there is a summary of results in which are noted a number of cases of suppuration. It is not stated, however, whether they were superficial or articular, and the dates of their occurrence are omitted. I have seen no later tabular statement and am quite without statistical information. I have no reason to doubt, however, that suppurative arthritis at the present time, as a sequel of operation, is quite as foreign to the experience of other surgeons as to my own.

5. Finally, the safety of the patient may be compromised by septic poison unaccompanied by suppurative arthritis, by exhausting suppuration pervading the deep muscular fasciæ, by rare surgical complications like tetanus, or by intercurrent disease. I presume we may exclude from consideration tetanus and intercurrent disease as accidents pertaining to surgical injuries in general, rather than to any particular form of treatment adopted for their relief. There is left for examination septicæmia and pyæmia, with or without suppuration either in the joint or involving the deeper structures of the limb, and these make up that mighty sea of danger which is said to bound our surgical horizon. It will simplify matters somewhat if we recognize at once the fact that these several conditions are all manifestations of a single defect in treatment, and the whole question of how much danger to life this operation involves will resolve itself into this: whether antiseptic conditions can be maintained during an operation and its subsequent treatment, and, if so, whether or not they are really germicidal, as we have come to believe at least in theory. I have thus far been content to accept a defensive position in the discussion of this subject, but at this point it becomes imperative to assume a more positive attitude and to define the exact position which this operation is entitled to hold. From the time when, by the courtesy of my colleague at Bellevue, Dr. W. F. Fluhrer, I first saw the patella wired, I have been impressed with the simplicity and beauty of the operation, and have become familiar with the demonstrated superiority of its results. I have also given serious attention to the warnings of danger which its opponents have conscientiously and persistently given to the profession, and with which my ear has become occasionally fatigued. I have never observed in regard to any other question of surgical practice such anxious solicitude for human life, such painful apprehension of professional responsibility. I humbly trust I have as deep a sense of the sanctity of human life as my fellows and as becomes me. I believe this fear, however, to be emotional rather than rational, and I must insist that hysteroidal protestations that one never has and never will wire the patella are wide apart from convincing reasons for avoiding the operation.

In raising the question of the sufficiency and practicability of aseptic treatment, we have the problem of the safety, and therefore of the propriety, of wiring the patella in an appreciable and concentrated form. The whole ground is practically covered by the determination of a single preliminary. We have, of course, a right to assume, as well as to demand, that no aseptic precaution shall be neglected. If the knee joint can not be opened with safety, then aseptic surgery is a delusion and a failure, and the sooner we realize it as a fact the better for our patients and for the practice of our art. If we have faith in its theory and practice, it is cowardly to deprive our patients of all the advantages which may follow its acceptance. Is it denied by any one at the present day that, under such conditions as I have formulated, aseptic treatment is adequate to protect the wound from pyogenic germs and septic poison? Or will any one confess his inability to use the care which such treatment absolutely demands? If such a one there be, he may well denounce the operation and declare it unjustifiable, reckless, and fraught with danger. I am confident not one of its opponents will assume this position, and, by consequence, not one can claim tenable ground on which to stand.

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* N. Y. Med. Journal, April 8, 1886.

I do not ignore the possibility of septic or other complications, even with the employment of antiseptic methods. Some allowance must be made for the imperfection of human judgment, and some for those unforeseen and often inexplicable accidents which occur in all surgical interference. Like intercurrent disease, such accidents may intervene to our discomfiture alike in the most trivial and in the most serious operations which engage the attention of the surgeon, and there is no reason why this, of all others, should form the exception to the rule. Death still occurs from time to time after herniotomies for radical cure in non-strangulated cases, after laparotomies of the class most frequently performed, after nephrectomies, after the craniotomies which are among the most brilliant achievements of modern surgery, after almost every one of the operations which add to the comfort and usefulness of life. Fatal results after wiring the patella are more infrequent than after almost any one of the surgical procedures I have named. Patients still die during the administration of anæsthetics. Are, then, all the blessings of anæsthesia to be confined to those cases in which operation is essential to life and impossible of execution except under its influence? Is no operative resort proper save as a forlorn hope? Is it only in the face of death that operative surgery may interfere? If such argument be carried to its logical extent, the application of surgical art must be restricted within much narrower bounds than the opponents of this use of arthrotomy are likely to concede, and yet to this complexion must they come after examination of its results and consideration of the sources of its danger, if they desire to retain the appearance of consistency.

It is not enough to admit the safety of this operation. Its demonstrated results are so far superior to those of other methods of treatment that its adoption becomes matter of obligation, at least in those cases of recent fracture in which no contra-indication is apparent, and in an aggregate of fifty I have seen but one so contra-indicated. I am not disposed to accept the sort of conservatism which ignores surgical progress in any direction, and acquiesces supinely in the results of the past, regardless of their imperfection.

It is indeed strange that, while the treatment of fractures in general has been so radically improved, any considerable number of surgeons should be satisfied in this particular instance with ligamentous unions and non-unions, with feeble and imperfect joints, and with limbs of uncertain strength—results which elsewhere would be considered in the highest degree unsatisfactory. I have lately seen such a collection of cases treated by plaster of Paris, and I am free to admit that the use of the limb was generally better than could have been reasonably expected, probably as good as could have been obtained short of operation. At the same time they all displayed one or more of the defects I have mentioned and, considered collectively, afforded the strongest possible argument in favor of operative treatment.

It is objected to this procedure that it is beyond the capacity of the general profession. It certainly belongs to the domain of surgery, and is subject to the same limitations of usefulness as other methods of relief which are surgical in their character. It is fair to assume that surgical operations will ordinarily be done by surgeons, and perhaps the treatment of fractures without operation might be left in their hands, when practicable, with advantage. There are, however, no special operative difficulties which demand unusual skill in manipulation. The patients are very generally of the class who receive hospital care when surgical skill may be expected to be available. There is no doubt that surgical exigencies are usually met wherever they may occur. I also think it quite proper to remark that the time has passed when our profession is dominated by a few men in virtue of pre-eminent intellect and skill to whom all operations of magnitude are referred. The day of great men in our profession has gone, and more or less clever men take their place. We live in an era of mediocrity, but a mediocrity of excellence, and perhaps we have no occasion to regret that we no longer grind with the water that has gone by. The conditions of surgery have changed with the use of asepsis, and the careful, painstaking man is the man of success. The number of surgical *internes* who are yearly sent into the profession with an adequate knowledge of surgical *technique* is sufficient to fulfill every obligation the increase of surgical resources may demand. So we need suffer no apprehension that if patellæ are to be wired, competent surgeons will not respond. If students do not realize the absolute protection which asepsis affords, and the necessity of unfailing care required in its application, it is the fault of their teachers. If they do not use it with the precision which it demands, and give it the unreserved confidence it deserves, it will possibly be because that at the same time they are taught that it destroys the possibility of infection, they are also taught in effect that an operation done in accordance with its laws is wrong, because the patient is likely to die from sepsis or suppuration.

Certain other objections have been made to this operation which are hardly worthy of serious consideration, and I do not think it useful to devote time to their discussion.

The advantages to be derived from the operation of wiring in the treatment of simple fractures of the patella may be appreciated from an examination of the condensed histories and analytical table included in this paper. My own estimate of their importance may be inferred from what I have already said directly or by necessary implication. These conclusions may be stated in brief as follows:

1. Osseous union is prevented by the intervention of aponeurotic fibers between the fragments, and becomes possible only after their removal by an operation which involves opening the joint.

2. In recent refractures after wiring, and in very exceptional primary fractures, these fibers do not intervene, and osseous union can be obtained without operation if coaptation of the fragments can be otherwise effected and maintained.

3. Osseous union is always obtained after removal of

these fibers and coaptation or close approximation of the fragments by wiring.

4. There is no danger to life in this operation from sepsis or articular suppuration, provided aseptic laws are fully observed, and no greater danger from accidental complications than in trivial forms of surgical interference.

5. There is no danger of osteitis or necrosis.

6. There is no danger of ankylosis if proper care be taken in the use of passive motion, and if in certain cases forcible flexion under ether be employed.

7. There is less danger of refracture, or of subsequent fracture of the opposite patella, than when union is by ligament.

8. The treatment by this operation is less fatiguing to the patient, requires a shorter period of confinement in bed, and enables him to walk and to resume his occupation sooner than any other method of treatment.

This summary of conclusions, with the circumstances and facts from which it is derived, is founded entirely upon the cases which I have recorded. I should not venture to generalize so widely were it not that my personal experience has been confirmed in all essential respects by what I have seen in the service of my colleagues, and by what I have been able to learn of the result of recent cases from various sources. I have also failed to discover sufficient reason for the criticism which the operation has provoked, and to which I have taken occasion to refer. I feel confident, therefore, that the basis of my opinion is of adequate breadth. I have had no death, I have had no drop of pus in any joint, and I have invariably obtained osseous union where coaptation could be even measurably effected. The number of cases has been considerable, and the length of time elapsed since the operation has been sufficiently long to show the definitive result. The safety of the operation and the perfection of the result are therefore of record. The economy of time and the comfort of the patient, with the absence of danger, should make this the treatment of election even were the result less perfect than these cases have demonstrated.

Note.—In consequence of some recent reference to the recorded statistics of mortality after wiring the patella, I have made inquiry as to the number of cases of operation done in New York during the last six years, including two of mine occurring since this paper was read, with the following result:

Dr. Charles Phelps	44	cases.
" F. S. Dennis	30	"
" W. F. Fluhrer	16	"
" Stephen Smith	15	"
" J. D. Bryant	4	"
" H. M. Silver	3	"
" Robert Abbe	2	"
" J. J. Garmany	2	"
Total	116	"

The only death occurring in all these cases was one from delirium tremens, in the service of Dr. Dennis. Practically, therefore, so far as I can learn, there has been no death in New York as a consequence of wiring the patella during the last six years. While the number of operations may have been larger than I have been able to discover, I am quite positive that, if death had resulted in any instance, it would have been brought to my notice.

34 West Thirty-seventh Street.

A NEW OPERATION FOR THE CURE OF UTERINE MYOMATA.

INTRACAPSULAR SLOUGHING THROUGH AN ABDOMINAL INCISION.

WITH A REPORT OF FOUR CASES.

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On October 17, 1886, Miss L., aged thirty-two, a seamstress by occupation, was admitted as a private patient in my service at St. Mary's Hospital for the purpose of having the uterine appendages removed in order to arrest the growth of a large uterine myoma, extending to the free border of the ribs, subperitoneal in location, and which of late had been giving rise to the usual disturbances incident to the presence of these neoplasms. The operation was attempted on the following day. Upon making the usual median incision it was found that the adhesions existing between the presenting surface of the tumor and the parietal layer of the peritonæum were such as to preclude all hope of reaching the ovaries and tubes. During the manipulation the surface of that portion of the tumor corresponding to the incision in the abdominal wall was slightly wounded, and a rather brisk hæmorrhage followed from the growth itself. After endeavoring in vain to arrest this by suturing, etc., I at last resorted to the use of the thermo-cautery, only succeeding with this after the tissue of the myoma had been invaded by the cautery by an opening half an inch deep and an inch long. The abdominal cavity was walled off as perfectly as possible by means of a packing of iodoform gauze, and the usual dressings applied. The sloughing process thus initiated by the thermo-cautery did not cease until complete intracapsular separation of the tumor had taken place, the mummified and broken-down mass being extruded through the opening in the abdominal wall, which process was completed and the wound perfectly healed at the end of six weeks. An examination at the end of a year showed this patient to be entirely free from any trace of a recurrence or regrowth of the disease. During the entire convalescence the cavity of the capsule, from which the tumor seemed to be first separated, was kept in an antiseptic condition by frequent irrigations, and the patient seemed to suffer no inconvenience to her general health from the presence of the sloughing mass.

Emboldened by this experience, I determined, upon the first occasion of such an otherwise inoperable case coming under my observation, to institute a formal operation, based upon this discovery of the ease with which these growths break down when exposed and cauterized. Such an opportunity occurred, and the history of the case is briefly as follows:

On July 9, 1889, Miss K., a school-teacher, aged thirty-three, was admitted to my service at the Methodist Episcopal Hospital with a history of an intramural uterine fibroid of five years' standing which had been very faithfully and intelligently treated by the Apostoli method by my then assistant, the late Dr. William M. Thallon. No diminution of the tumor had taken place, and when she entered the hospital the growth occupied the entire pelvis and reached in the abdominal cavity to a level two inches above that of the umbilicus. It was absolutely immovable in any direction, and was evidently a case in which an attempt at hysterectomy would not be advisable, and would probably be followed by failure. I therefore proceeded to operate as follows: An incision was made in the median line about four inches in length from the umbilicus downward and the tumor exposed. The capsule of the latter was now carefully sutured by means of silk thread to the parietal layer of the peritonæum in such a manner as to leave in the gaping abdominal wall an area of the anterior surface of the tumor about three inches long by an inch wide. A packing of zinc gauze in the opening sufficed for dressing, and the patient was removed from the table in fairly good condition. On the third day, the adhesions about the edges of the incision being sufficiently firm, a furrow was made in the presenting portion of the tumor by means of the thermo-cautery, about two inches long and three eighths of an inch deep. Gauze dressings were again applied. In forty-eight hours the sloughing process was well under way and continued uninterruptedly, being occasionally hastened by a fresh application of the cautery until the entire tumor had separated and come away. As the capsule became separated from the myomatous tissue, masses of the latter, completely devoid apparently of organization and in a condition comparable to leather, were lifted up into the opening by means of forceps and cut away with curved scissors. Upon one occasion the tissue thus cut away amounted to two pounds and a half. Not the slightest trace of hæmorrhage or other noticeable event ever followed these efforts to hasten the expulsion of the spontaneously enucleated growth; nor was any pain complained of upon these occasions or when the thermo-cautery was applied. Copious and frequent irrigations and loose packing with zinc gauze served to keep the parts in a sufficiently antiseptic state to protect the patient from serious septic infection, and this case, like the first, went on to perfect and satisfactory recovery. The sloughing process occupied in this case about fourteen weeks, but a small sinus persisted for three months thereafter, the latter in no wise interfering with the patient's resuming her school duties, and finally closing altogether. I have examined this patient within the past week, and there is not the slightest trace of the presence of a tumor.

In this as well as in the preceding case the cicatricial tissue about the site of the operation produced a dimpling or depression, and the uterus itself was evidently firmly fixed to the anterior abdominal wall. The function of the bladder is not impaired in the slightest, but, on the contrary, the symptoms of vesical irritation previously present were all relieved as soon as the sloughing process was well under way. The other symptoms, both direct (cardiac hypertrophy and irritability, menorrhagia and metrorrhagia) and reflex (neurotic manifestations, cephalalgia, etc.), likewise underwent marked improvement within a comparatively short time, and in each instance a woman dependent upon her own efforts for daily bread was rescued from a state of chronic invalidism and a rapidly approaching "beyond-all-hope" condition by the performance of this operation.

I have reason to suspect, from the occasional occurrence of the odor peculiar to the genital tract upon the dressings placed over the sinus, that the persistence of the latter in the second case was due to the invasion of the cavity of the uterus by the sloughing process, although so small had the sinus become when this was first noticed that attempts to verify the suspicion were followed by negative results.

I have performed this operation in two subsequent cases, making four in all.

One of these proved to be a fibro-cystic growth, in which a laparotomy had been performed two years before. The adhesions were so extensive, however, that the operator decided not to proceed further, and the abdomen was closed. The growth of the tumor, however, went on unchecked, and when the patient came under my care she presented the appearance of a pregnant woman at full term. A suspicion of fibro-cystic myoma was entertained, and in this instance the laparotomy was undertaken with the view of again attempting its removal. What, however, with the original adhesions—which of themselves were appalling—and those which had resulted from the first incision, this was abandoned, and the intracapsular-sloughing operation substituted. When the sloughing process had found its way into the cystic portion of the tumor, which occurred in the course of the first week, a gush of its fluid contents took place, and the growth was at once reduced to no more than half its former size. In spite of the fact that this patient came into the hospital in an exceedingly emaciated state, having recently recovered from an extensive general peritonitis, and having signs of apical consolidation, she is steadily improving in her general condition, and the cavity from which the cystic fluid escaped and from which, likewise, sloughing portions of the tumor proper, from time to time, still make their exit, now, at the end of eight weeks, is becoming rapidly obliterated.

The fourth case is that of a woman of thirty-eight years, who entered the Methodist Episcopal Hospital, having a fibroid of the uterus, with the usual history and symptoms. The growth reached to the level of the umbilicus upon the left side, and upon the right somewhat higher. After sixty applications of electricity, after Apostoli's method—averaging about 100 milliampères each—the growth was diminished to about one third its original size. Considerable cardiac disturbance sometimes followed this dosage, and when the patient developed an attack of otitis media, and became very much debilitated by an attack of "la grippe," treatment was suspended, and she was sent to her home in the country to recuperate. Two months afterward she was again admitted to the hospital, when it was found that not only had all that had been gained become lost, but the tumor was larger than ever. With the memory of the disturbances which she had suffered during the Apostoli treatment before her, and the slight prospect of permanent cure to be expected therefrom, she elected to have intracapsular sloughing attempted in her case. This was done, and at the present writing she has recovered from the effects of the laparotomy which preceded the sloughing-out process, and the latter is going on in a perfectly satisfactory manner.

I would say, in concluding the preliminary report upon this novel method of curing uterine myomata, that I do not urge the operation at this stage of its development for all cases of the disease. Those growths situated in or springing from the lower segment of the posterior wall of the uterus are probably not to be reached by this method unless the preliminary incision is made through the *cul-de-sac* of Douglas from the vaginal side of the peritonæum, or time be given the tumor to grow sufficiently above the pelvic brim to allow of the upper margins being reached from the direction of the abdomen.

That the method is open to the criticism of exposing the patient to septic infection during the time occupied in the sloughing out of the tumor I am also well aware, yet this has not even been approached in the four cases herewith reported, there having been such a remarkable and uniform absence of sepsis as to almost suggest a remarkable immunity from and resistance to this complication on the part of the capsule itself. With the well-known tendency of these growths, when in a submucous location, to slough and escape *per vaginam*, and the reports recently of cases in which the tumor, having been simply exposed, and being found too closely attached to important viscera to admit of removal, has subsequently sloughed within the abdominal cavity, causing the death of the patient in the course of a few months, it has been a source of wonder to me that this method, conservative in its technique yet radical in its results, has not been suggested ere this, particularly when the difficulties and dangers and consequent high mortality of typical laparo-myomotomy are taken into account.

A FEW CASES OF INSUFFICIENCY OF THE INTERNI AND THEIR TREATMENT.

By S. DICKSON BARR, M. D.,
YORK, PA.

Case I.—The patient, a young woman, twenty years of age, complains of severe neuralgic headaches, which she has had ever since childhood. She is unable to sew, and can not read for more than half an hour without severe pain through the eyes and temples, followed by a headache.

Ophthalmoscopically there is no lesion. She had $\frac{20}{15}$ vision in each eye, but under atropine, R. E., $\frac{20}{70}$; L. E., $\frac{20}{100}$.

We found insufficiency of the internal recti and compound hypermetropic astigmatism in both eyes.

I prescribed: R. E. $\frac{20}{70}$, sph. + 1·25, cyl. + 0·50, ax. 70° $\frac{20}{15}$. L. E. $\frac{20}{100}$, sph. + 1·50, cyl. + 0·50, ax. 90° $\frac{20}{15}$. Prism 5°, base out, divided, was added.

This gave considerable relief for a time, the neuralgic pains not being so frequent or so intense as before.

After the glasses had been worn for some months and the pains still continued, we advised an operation. This was performed, being a division of the median fibers of the external rectus of right eye. The patient, after the operation, exercised her eyes by fixing them on the tip of her finger and keeping them there while moving it from a point about eight inches distant from her face to the bridge of her nose and back again, continuing this for five minutes three times a day. During the first two weeks she was entirely free from pain, able to read and sew without a perceptible effort for any length of time. Then the headaches began to come back again; although not so severe, they were still troublesome. A month after the first operation I operated a second time, but this time on the external muscle of the left eye, dividing the median fibers as before. The exercise was begun again and continued for two weeks, the eyes then being perfectly normal in their movements and the headaches having ceased entirely.

I examined her again, under atropine, for glasses, getting the same combination, with the exception of the prisms, that being unnecessary, the exophoria having disappeared. I prescribed, therefore, the glasses without the prisms.

The patient when last heard from, eight months after the last operation, was entirely free from her headaches, able to read and sew any reasonable length of time without any trouble.

Case II.—A woman, aged forty years, complains of terrible pains in the eyeballs and at the base of brain; is unable to read or sew without pain and headache. No ophthalmoscopic lesion. B. E. $\frac{20}{40}$, exophoria overcome by prism 4°. Under atropine, R. E. $\frac{20}{50}$ (?), L. E. $\frac{20}{70}$ (?), we found mixed astigmatism. R. E. sph. + 1·50, cyl. — 0·50, ax. 60° $\frac{20}{20}$. L. E. sph. + 1·75, cyl. — 0·50, ax. 100° $\frac{20}{20}$. There was no power of convergence on a point inside of eight inches from the bridge of the nose.

I operated on the external rectus of the right eye as in the foregoing case, the operation being followed by exercise, as before. The patient was seen a month after and said she was free from her headaches and the frequent nausea which she had before the operation.

Case III.—A woman, aged thirty-five years, complains of supra-orbital headaches and asthenopia, which she has had for years, and a sensation as though a web were over her eyes. Letters blur after looking at them for a short time. No ophthalmoscopic lesion. Weakness of internal recti. Hypermetropic astigmatism, B. E., $\frac{20}{50}$. Under atropine, B. E., $\frac{20}{200}$. On examination, I found the following glass and prescribed it: R. E., cyl. + 2·25 D., ax. 90°. L. E., cyl. + 2·00 D, ax. 90°.

I at the same time ordered the patient to exercise the muscles as in above cases. She returned about four weeks after; I found the exophoria had entirely disappeared, as well as the headaches.

Case IV.—A child, aged thirteen years, complains of headaches, letters blurring, and pain through the balls of the eyes. Insufficiency of internal recti. No ophthalmoscopic lesion. R. E, $\frac{20}{30}$. L. E., $\frac{20}{50}$. Under atropine, B. E., $\frac{20}{70}$. I found mixed astigmatism in right eye, and hypermetropic astigmatism in left eye. I prescribed: R. E., sph. + 1·25, cyl. — 0·75, ax. 150°. L. E., cyl. + 1, ax. 90°. The patient followed directions about exercising the eyes for three weeks. I heard from him several months after; the exophoria had almost entirely gone and he had no trouble with reading.

Case V.—A woman, aged thirty-eight years, complains of severe headaches, inability to sew, dull, heavy pain at base of brain. No ophthalmoscopic lesion. Asthenopia. R. E., $\frac{20}{40}$. L. E., $\frac{20}{30}$. Under atropine, R. E., $\frac{20}{40}$. L. E., $\frac{20}{40}$ (?). I found hypermetropic astigmatism in right eye, and compound hypermetropic astigmatism in left eye. Insufficiency of internal recti. I prescribed: R. E., cyl. + 0·50, ax. 50°, $\frac{20}{20}$. L. E., sph. + 0·50, cyl. + 0·50, ax. 130°. Exercise was carried on for several weeks, with excellent result. The patient at last report, two months after, was doing well.

HEARING RESTORED IN A DEAF-MUTE BY TREATMENT.

By W. H. BATES, M. D.

Rose D., aged nineteen, had cerebro-spinal meningitis when three years old. Her hearing was suddenly lost at that time. She has attended school at the Deaf and Dumb Asylum, Fordham, until recently.

On February 11, 1890, I began treatment. She did not hear the ticking of the watch, loud conversation, or the sound of her own voice. The Eustachian tubes were not easily opened by Politzeration. Drum membranes transparent, slightly sunken. Tinnitus was present. The history of the patient, deafness following cerebro-spinal meningitis, would have indicated incurable internal ear deafness, and the negative appearance of the drum membranes would have supported this supposition. The tuning-fork, however, gave the well-known formula that we obtain in many uncomplicated cases of catarrhal inflammation of the middle ear, a condition that can often be benefited by treatment.

Treatment was pursued daily for a month by inflation and the application of nitrate of silver to the vault of the pharynx. Her family physician was giving her constitutional treatment.

March 11th.—Watch heard at twenty inches. Hears conversation at ten feet. Is learning to talk. Treatment now three times a week. Hearing steadily improved in both ears.

May 15th.—Watch heard at five feet. Conversation heard at twenty feet. Tinnitus much better. Her talking resembles that of a child just learning to speak.

49 West Fifty-seventh Street.

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CONTEMPLATED UNIVERSITY CHANGES.

The authorities of Harvard University have under consideration the project of reducing the duration of the course in the School of Arts from four years to three. They are said to have been moved to entertain the idea by the fact that there is a general conviction that the time now necessarily occupied in a young man's education before he is ready to set out on a professional career brings him to an age that is unnecessarily advanced and retards the period at which he is able to begin earning his living. The argument seems to have made an impression on the authorities of Columbia College also, but they appear disposed to meet the difficulty in a somewhat different way; instead of shortening the time of study required before the diploma in arts is granted, they are inclined to maintain it as it is now, but to allow fourth-year students the privilege of entering one of the professional schools, so that they will save a year in the end without undue condensation of their work.

It must not be supposed that the universities have any idea of impairing their curriculum or of curtailing their requirements. Harvard's traditions are such as to put any such notion out of the question, and in the case of Columbia there has been ample evidence of late years, and more especially since President Low's accession to office, of a determination to win for the institution a rank far ahead of what it has ever before held. This has lately been exemplified to a notable extent by the decision not to grant a second examination to students found deficient in any branch during the brief period elapsing between the examination for the bachelor's degree and the time of the commencement exercises.

The Harvard plan may be the more expedient for that institution, particularly with reference to undergraduates who intend to study medicine, for the seat of the University is Cambridge, but the Medical School is in Boston, and the loss of time necessarily involved in going back and forth between the two would probably prove fatal to the pursuance of the first year's course in medicine in conjunction with the duties of a senior in the School of Arts. It is fortunate for Columbia that all the professional schools she has are close at hand, and therefore her plan seems feasible. It certainly seems to us the more commendable of the two, for it does away with even the appearance of lowering the requirements of the School of Arts, although we confess to some surprise at learning that a senior in that school is supposed to have leisure enough for the arduous work required in a school of law, medicine, or theology; moreover, the plan will not have the ungenerous effect of compelling the rural colleges, that have no professional schools, to cut their term down to three years in self-protection. On the other hand, the Harvard plan will probably be preferred by young men who have an eye to a mercantile career, and, if it is adopted, it seems not unlikely that Harvard will shortly become a university for "business men."

THE THERAPEUTIC USES AND TOXIC EFFECTS OF CANNABIS INDICA.

A valuable contribution to the literature of Indian hemp is a paper with this title published in the Lancet for March 22, 1890, by Dr. J. Russell Reynolds. In explaining the occasional toxic effects of this drug, two things must be remembered: First, that, by its nature and the forms of its administration, *Cannabis indica* is subject to great variations in strength. Extracts and tinctures can not be made uniform, because the hemp grown at different seasons and in different places varies in the amount of the active therapeutic principle. It should always be obtained from the same source, and the minimum dose should be given at first and gradually and cautiously increased. The second important fact to keep in view is that individuals differ widely in their relations to various medicines and articles of diet—perhaps to none more than to substances of vegetable origin, such as tea, coffee, ipecacuanha, digitalis, nux vomica, and the like. In addition to the purity of the drug, the possibility of idiosyncrasy must be borne in mind as calling for caution in giving Indian hemp. By gradually increasing the dose and habituating the organism to its use, the use of *Cannabis indica* may be pushed to three or four grains at a dose with positive advantage. But in Dr. Reynolds's experience a grain would bring about toxic effects in the majority of healthy adults; and a quarter of a grain has done the same, but never a fifth, which is the proper amount with which to begin the use of the drug among grown persons, a tenth of a grain being the proper initial dose for children. The best preparation for administration is the tincture—one grain to twenty or ten minims—dropped on sugar or bread. The minimum dose should be given, as before stated, repeated every four or six hours, and gradually increased every third or fourth day, until either relief is obtained or the drug is proved useless. With such precautions, Dr. Reynolds states he has never met with toxic effects and rarely failed to ascertain in a short space of time the value or uselessness of the drug.

Its most important results are to be found in the mental sphere; as, for instance, in senile insomnia, with wandering. An elderly person (perhaps with brain-softening) is fidgety at night, goes to bed, gets up, thinks he has some appointment to keep, that he must dress and go out. Day, with its stimuli and real occupations, finds him quite rational again. Nothing can compare in utility to a moderate dose of Indian hemp at bedtime—a quarter to a third of a grain of the extract. In alcoholic subjects it is uncertain and rarely useful. In melancholia it is sometimes serviceable in converting depression into exaltation; but, unless the case has merged into senile degeneration, Dr. Reynolds does not now employ *Cannabis indica.* It is worse than useless in any form of mania. In the occasional night restlessness of general paretics and of sufferers from the "temper disease" of Marshall Hall, whether children or adults, it has proved eminently useful.

In painful affections, such as neuralgia, neuritis, and migraine, Dr. Reynolds considers hemp by far the most useful of drugs, even when the disease is of years' duration. In neuritis the remedy is useful only in conjunction with other treatment, and is a most valuable adjunct to mercury, iodine, or other drugs, as it is in neuralgia when given with arsenic, quinine, or iron, if either is required. Many victims of diabolical migraine have for years kept their sufferings in abeyance by taking hemp at the threatening or onset of the attack. In sciatica, myodynia, gastrodynia, enteralgia, tinnitus aurium, muscæ volitantes, and every kind of so-called hysterical pain, *Cannabis indica* is without value. On the other hand, it relieves the lightning pains of ataxia, and also the multiform miseries of the gouty, such as tingling, formication, numbness, and other paræsthesiæ.

In clonic spasm, whether epileptoid or choreic, hemp is of great service. In the eclampsia of children or adults, from worms, teething (the first, second, or third dentition), it gives relief by itself in many cases. Many cases of so-called epilepsy in adults—epileptoid convulsions, due often to gross organic nerve-center lesions—are greatly helped by *Cannabis indica*, when they are not affected by the bromides or other drugs. Take, for instance, violent convulsions in an overfed man, who is attacked during sleep a few hours after a hearty supper, the attacks recurring two or three times an hour for a day or two, in spite of "clearing the primæ viæ," or using bromine or some other classic drug. These attacks may be stopped at once with a full dose of hemp. In brain tumors or other maladies in the course of which epileptoid seizures occur, followed by coma, the coma being followed by delirium—first quiet, then violent—the delirium time after time passing into convulsions and the whole gamut being repeated, Indian hemp will at once cut short such abnormal activities, even when all other treatment has failed. In genuine epilepsy it is of no avail. In cases where it has seemed to do good, the author doubts the correctness of the diagnosis and suspects organic lesion or eccentric irritation. In tonic spasms, such as torticollis and writers' cramp, in general chorea, in paralysis agitans, in trismus, tetanus, and the jerky movements of spinal sclerosis, *Cannabis indica* has proved absolutely useless. At the same time, it is most valuable in the nocturnal cramps of gouty or old persons, in some cases of spasmodic asthma, and in simple spasmodic dysmenorrhœa. Thus it will be perceived that for the relief of suffering, quite apart from a curative effect, hemp must ever be held in high esteem and ranked with the poppy and with mandragora.

MINOR PARAGRAPHS.

PNEUMONIA IN CHILDREN SIMULATING MENINGITIS.

Three cases of pneumonia with cerebral symptoms are reported by Dr. Morris in the Boston Medical and Surgical Journal. In the first case an upper lobe was involved. In the second, consolidation did not appear until the sixth day and was confined to the right upper third of the chest. In the third, cerebral symptoms developed on the second day, but consolidation was not discovered until the sixth and was confined to the right upper lobe. The cerebral symptoms in each case developed early. Stupor continued about seven days with occasional attacks of screaming, delirium, and vomiting. The muscles of the neck were rigid and the thighs were flexed upon the abdomen, which was distended and tympanitic. The patients all made a good recovery. In a discussion on the report, Dr. Rotch remarked that there were a number of diseases in children which simulate each other in their initial symptoms. The most difficult to distinguish were typhoid fever, tubercular meningitis, acute gastric catarrh, and pneumonia. With the knowledge that the physical signs of pneumonia, with the most careful examination, might not be detected for many days, thoracic disease should not be eliminated unless the evidences of cerebral disease were very positive. It should not be taken for granted, because even exaggerated symptoms of cerebral irritation were present, that a lesion necessarily existed.

THE QUESTION OF PATENTING MEDICAL INVENTIONS.

We have repeatedly declared our lack of faith in the wisdom of the ethical rule current in the profession to the effect that physicians ought not to patent their inventions. In Dr. Piffard's article, which we publish in this issue, he says: "Some ten or twelve years ago the writer devised a cautery battery which, considering bulk, weight, and efficiency, has probably never been surpassed. In this battery the plates were of *platinum* and zinc. As the apparatus was not protected by patent, any one who chose could make it or imitate it. Some makers did so and debauched the quality and efficiency by substituting carbon for platinum, still selling the battery as the genuine article with my name attached, which was a fraud." It is not long since Dr. Piffard declared himself most unequivocally in accord with the prevalent sentiment on the patent question, so that the words he now uses have all the more force as a protest against it.

THE NEW BATHING ESTABLISHMENT AT RICHFIELD SPRINGS.

Of late years there has been a gratifying disposition to manage the sulphurous waters of Richfield in a way to make them serviceable to the utmost from the medical point of view, rather than to restrict the attractions of the place to those of a fashionable resort. For this much praise is due the proprietor, Mr. Proctor. The most telling recent manifestation of his appreciation of what Richfield may be made to be is to be seen in the erection of a superb bathing establishment, according to the plans of so competent an architect as Mr. John Dufais. While the building has been made pleasing to the eye, nothing has been omitted to make it answer effectively the purposes of a modern medicinal bathing establishment of the first order. We are glad to learn that it is to be under the efficient management of Dr. Charles C. Ransom, of New York, to whose care, we are confident, our readers may intrust their patients without hesitation.

THE RESIGNATION OF A VETERAN TEACHER.

The retirement of Dr. George W. Miltenberger from the University of Maryland was an interesting event connected with the close of the lecture season at the School of Medicine, severing a teaching connection that had lasted half a century. He graduated from that school in 1840, and in the same year received his appointment as demonstrator of anatomy; the chair of obstetrics was occupied by him during more than thirty years, an unusually long incumbency of so exacting a position. His leave-taking was marked by a very touching address. The students and alumni propose to erect some memorial in honor of Dr. Miltenberger's long services. He will be succeeded by the present professor of anatomy, Dr. Michael.

THE CONNECTICUT STATE MEDICAL SOCIETY.

At a meeting of this society, held in New Haven on May 28th, it was ordered that a representation be made to Congress requesting the retention of sugar of milk on the list of non-dutiable articles, instead of having that substance taxed ten cents a pound, as it will be if the proposed new tariff bill becomes a law. The recent circular and inquiries issued by the Census Department to the medical profession, asking its members to give information regarding their diseased patients, were discussed and a condemnatory resolution was introduced.

LEPROSY EXCLUDED AT THE BOSTON QUARANTINE.

The Quarantine authorities at Boston Harbor have intercepted the importation of a case of leprosy in the person of a woman from Sweden. After the true nature of the disease had been clearly made out, the officials not only refused a permit to land, but required the Cunard Company to return the leper to her own country. This was done on May 10th. It has now been learned that the diagnosis of leprosy was confirmed by the medical officials at Liverpool upon the arrival of the outcast at that port.

THE NEWBERRY LIBRARY OF CHICAGO.

The Journal of the American Medical Association announces that at the recent meeting of the Illinois State Medical Society a representative of the trustees of the Newberry Library stated that it was the purpose of the trustees to devote a section of the library building to medicine exclusively. When we consider the pecuniary resources of the Newberry Library and the attainments of its librarian, we must congratulate Chicago on this announcement.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 3, 1890:

DISEASES.	Week ending May 27.		Week ending June 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	0	9	2
Scarlet fever	69	5	47	8
Cerebro-spinal meningitis	2	2	5	3
Measles	379	25	427	30
Diphtheria	110	23	83	33
Varicella	5	0	5	0

The American Pædiatric Society held its second annual meeting in New York on Tuesday and Wednesday of this week, under the presidency of Dr. J. Lewis Smith. Besides the president's address, the programme included papers by him and by Dr. F. Huber, Dr. J. J. Reid, Dr. W. P. Northrup, Dr. W. L. Carr, Dr. H. M. Biggs, Dr. Dillon Brown, Dr. L. E. Holt, Dr. A. Caillé, Dr. F. M. Warner, Dr. F. M. Crandall, Dr. L. S. Rau, Dr. C. H. May, Dr. John Dorning, Dr. A. Jacobi, Dr. A. Seibert, Dr. J. E. Winters, Dr. H. Koplik, and Dr. J. H. Fruitnight, of New York; Dr. T. M. Rotch, Dr. H. C. Hoven, Dr. Henry Jackson, and Dr. C. M. Townsend, of Boston; Dr. C. W. Earle, of Chicago; Dr. V. C. Vaughan, of Ann Arbor, Michigan; and Dr. W. A. Edwards, of San Diego, California.

The Massachusetts Medical Society.—The one hundred and ninth annual meeting will be held in Boston on Tuesday and Wednesday, the 10th and 11th inst., under the presidency of Dr. David W. Cheever. The Shattuck Lecture will be given on Tuesday evening, by Dr. George B. Shattuck, of Boston. The annual discourse will be given on Wednesday, at noon, by Dr. James C. White, of Boston.

In the Section in Medicine (Dr. A. H. Johnson, of Salem, chairman) the following papers will be read: The Influence of Insanity: a Clinical Report of Cases, by Dr. A. H. Harrington, of Danvers; The Care of the Insane in Local Institutions, by Dr. A. R. Moulton, of Boston; The Indications for Operations involving the Opening of the Vertebral Canal, by Dr. J. J. Putnam, of Boston; and The True Position of Electricity as a Therapeutic Agent, by Dr. Morton Prince, of Boston.

In the Section in Surgery (Dr. D. W. Cheever, of Boston, chairman) Irreducible Hernia will be the subject of a discussion by Dr. J. C. Warren, Dr. G. W. Gay, and Dr. H. W. Cushing, of Boston; Dr. Walter Ela, of Cambridge; Dr. C. W. Galloupe, of Lynn; and Dr. F. H. Thompson, of Fitchburg.

In the Section in Obstetrics and Gynæcology (Dr. J. P. Reynolds, of Boston, chairman) papers will be read as follows: A Case of Protracted Labor resulting in Atresia of the Vagina, by Dr. A. H. Hodgdon, of Dedham; Three Cases of Laparotomy for General Peritonitis, by Dr. Leonard Wheeler, of Worcester; Obstetrical Work in a Cottage Hospital, by Dr. Henry Colt, of Pittsfield; and The Treatment of Uterine Fibro-myomata by Abdominal Hysterectomy, by Dr. J. C. Irish, of Lowell.

In the general meeting, on Wednesday, papers will be read as follows: Some Relations of Climate to Health and Disease, with Especial Reference to Massachusetts, by Dr. W. E. Smith, of Boston; Poisonous Mushrooms, by Dr. E. J. Forster, of Charlestown; and Dangers from Defective Form and Color Sense, and their Control, by Dr. B. J. Jeffries, of Boston.

The Medical Society of New Jersey.—The one hundred and twenty-fourth annual meeting will be held at Schooley's Mountain, on Tuesday and Wednesday, the 10th and 11th inst., under the presidency of Dr. B. A. Watson, of Jersey City, who will give an address entitled A Historical Sketch of Surgery, Ancient, Mediæval, and Modern. There will be discussions on the following topics: Does the Early Administration of the Salicylates in Acute Articular Rheumatism prevent Heart Complications? (to be opened by Dr. E. J. Marsh); Hydrophobia (to be opened by Dr. W. P. Watson); and Is Diphtheria Primarily a Local or a General Disease? (to be opened by Dr. U. Selover).

One of the vice-presidents, Dr. George T. Welch, will read an address entitled Fathers and Sons. The following-named papers are announced: Endometritis, by Dr. E. L. B. Godfrey; and A Few Rare Cases of Abdominal Surgery, by Dr. Orren B. Gross.

The New York Pasteur Institute.—The director, Dr. Paul Gibier, reports that seven persons were treated during the month of April. The dogs that had bitten three of them were shown to be rabietic by experiment, and a person bitten by one of those dogs, but not treated at the Institute, has been reported to have died of rabies.

The Alumni Association of Mt. Sinai Hospital was organized on the 16th of May, with Dr. Alfred Meyer for president, Dr. Henry Stark for vice-president, Dr. A. H. Friedenberg for treasurer, and Dr. H. J. Schiff for secretary. The meetings will be held at the hospital on the last Tuesday in January, May, and October. We have no doubt that more frequent meetings will soon be seen to be advantageous. Further information may be had by addressing Dr. Schiff, at No. 235 East Seventy-eighth Street.

Dr. Jarvis's Nasal Crown-Drill.—We regret that, by an error on the part of the wood-engraver (not employed by us), an inadequate representation of the instrument is given in the article published elsewhere in this issue. The error was not discovered until that part of the Journal had been printed.

The West End Medical Society.—At the next meeting, this (Saturday) evening, Dr. F. Spencer Halsey, at whose house, No. 210 West Sixty-ninth Street, the meeting is to be held, will read a paper entitled Summer Complaints in Children, with an Account of an Interesting Case.

The Harlem Medical Association held its last regular meeting for the season on Wednesday evening, the 4th inst. Dr. E. Fridenberg presented four cases of trephining of the mastoid process; Dr. S. E. Gibbs read a paper entitled The Wise Druggist; and Dr. Joseph S. Tanner read a paper on The Treatment of Pneumonic Fever.

The New York Academy of Medicine.—It is announced that all the sections have adjourned until October, and that the next meeting of the Academy will be held on October 2d, in the new building in West Forty-third Street, where the library is now open from 10 A. M. to 10 P. M.

The Medico-chirurgical College of Philadelphia.—Dr. John Aulde has severed his connection with the institution.

Change of Address.—Dr. William R. Ballou, to No. 102 East Thirty-first Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 18 to May 31, 1890:*

GIRARD, J. B., Major and Surgeon, is granted leave of absence for one month, to take effect as soon after June 1st, proximo, as a medical officer can be sent to Fort Lowell for temporary duty. Par. 1, S. O. 48, Headquarters Department of Arizona, May 17, 1890.

DEWITT, THEODORE F., First Lieutenant and Assistant Surgeon, is relieved from duty at Willett's Point, New York, and will report in person to the commanding officer, Fort Ringgold, Texas, for duty at that station, relieving CARTER, W. FITZHUGH, Captain and Assistant Surgeon. Captain Carter, upon being thus relieved, will proceed to West Point, New York, and report in person to the superintendent of the U. S. Military Academy for duty at that station. Par. 2, S. O. 119, A. G. O., May 21, 1890.

BENHAM, ROBERT B., Captain and Assistant Surgeon, is relieved from further duty at Madison Barracks, New York, and will report in person to the commanding officer, Fort Wadsworth, New York, for duty at that station, relieving WINNE, CHARLES K., Captain and Assistant Surgeon. Captain Winne, upon being thus relieved, will proceed to Fort Snelling, Minnesota, and report in person to the commanding officer thereof for duty at that post. Par. 2, S. O. 119, A. G. O., May 21, 1890.

By direction of the Secretary of War, the following-named officers of the Medical Department will proceed to Berlin, Germany, as delegates to the International Medical Congress which is to meet in that city in August next: ALDEN, CHARLES H., Lieutenant-Colonel and Surgeon, and BILLINGS, JOHN S., Major and Surgeon. After the adjournment of the congress the officers named will return to the United States and rejoin their proper stations.

By direction of the Secretary of War, BILLINGS, JOHN S., Major and Surgeon, will, while abroad, under his orders to attend the International Medical Congress at Berlin, Germany, and before returning to the United States, visit, on official business, such points in Great Britain, France, Italy, Germany, Belgium, Holland, and elsewhere as may be deemed necessary by the Surgeon-General of the Army, and under such special instructions as he may receive from the Surgeon-General. Pars. 11 and 12, S. O. 116, Headquarters of the Army, A. G. O., Washington, May 17, 1890.

LORING, LEONARD Y., Major and Surgeon, now on sick leave of absence until further orders, is, by direction of the Secretary of War, relieved from duty in the Department of Arizona. Par. 14, S. O. 115, A. G. O., May 16, 1890.

WOOD, LEONARD, First Lieutenant and Assistant Surgeon, having completed at New York city the duties assigned him in S. O. 29, April 30, Division of the Pacific, will return to his station in that division.

Leave of absence for one month is granted WOOD, LEONARD, First Lieutenant and Assistant Surgeon. Pars. 19 and 20, S. O. 115, A. G. O., May 16, 1890.

By direction of the Secretary of War, so much of Par. 2, S. O. 119, A. G. O., May 21, 1890, from this office, as relates to BENHAM, ROBERT B., Captain and Assistant Surgeon, is amended to read as follows: BENHAM, ROBERT B., Captain and Assistant Surgeon, will proceed from Madison Barracks, New York, to Fort Wadsworth, New York, and report in person to the commanding officer of that post for temporary duty.

LAUDERDALE, JOHN V., Major and Surgeon, Fort Ontario, New York. Leave of absence for one month, to commence on or about June 1, 1890, is hereby granted. Par. 4, S. O. 123, Headquarters Division of the Atlantic, New York city, May 27, 1890.

HEIZMANN, CHARLES L., Major and Surgeon, is granted leave of absence for one month. Par. 1, S. O. 39, Department of Texas, May 19, 1890.

By direction of the Secretary of War, a board of medical officers—to consist of HEGER, ANTHONY, Lieutenant-Colonel and Surgeon; BROOKE, JOHN, Major and Surgeon; WHITE, ROBERT H., Major and Surgeon—will assemble at the U. S. Military Academy, West Point, New York, on June 7, 1890, to examine into the physical qualifications of the candidates for admission to the Academy, and, in connection with the Superintendent of the Academy and Commandant of Cadets, the members of the graduating class. Reports of the proceedings of the board will be forwarded, through the Superintendent of the Academy, to the Adjutant-General of the Army. Special reports will be made in the cases of any graduates deemed to be physically unfit for the military service, and also in the cases of candidates who may be admitted on probation or rejected. Par. 3, S. O. 121, A. G. O., Washington, D. C., May 23, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 24, 1890:*

CRANDELL, RAND P., Assistant Surgeon. Ordered to the Naval Hospital, New York.

BERRYHILL, THOMAS A., Passed Assistant Surgeon. Detached from the hospital at New York and ordered to the hospital at Mare Island, Cal.

ANDERSON, FRANK, Passed Assistant Surgeon. Ordered to special duty at the Bureau of Medicine and Surgery.

VAN REYPEN, W. K., Medical Inspector. Ordered to New York on special temporary duty.

Society Meetings for the Coming Week:

MONDAY, *June 9th:* New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

TUESDAY, *June 10th:* Delaware State Medical Society (first day—Wilmington); Maine Medical Association (first day—Portland); Massachusetts Medical Society (first day, Boston); Medical Society of New Jersey (first day—Schooley's Mountain); Medical Society of the State of Pennsylvania (first day—Philadelphia); New York Medical Union (private); Medical Societies of the Counties of Chemung (annual—Elmira), Chenango (semi-annual), Delaware (annual), Erie (semi-annual—Buffalo), Genesee (annual—Batavia), Livingston (annual), Onondaga (annual—Syracuse), Oswego (annual, Mexico), Rensselaer, St. Lawrence (semi-annual), Schenectady (semi-annual—Schenectady), Steuben (annual—Bath), Warren (annual—Lake George), and Wyoming (Warsaw), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

WEDNESDAY, *June 11th:* Delaware State Medical Society (second day); Maine Medical Association (second day); Massachusetts Medical Society (second day); Medical Society of New Jersey (second day); Medical Society of the State of Pennsylvania (second day); New York Pathological Society; American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany, Cortland (annual), Dutchess (semi-annual—Poughkeepsie), and Montgomery (annual—Fonda), N. Y.; Philadelphia County Medical Society.

THURSDAY, *June 12th:* Dakota Medical Society (first day—Sioux Falls); Rhode Island Medical Society (first day—Providence); Delaware State Medical Society (third day); Maine Medical Association (third day); Medical Society of the State of Pennsylvania (third day); Society of Medical Jurisprudence and State Medicine; New York Laryngological Society; Brooklyn Pathological Society; Medical Society of the County of Cayuga (annual), N. Y.; South Boston. Mass., Medical Club (private); Pathological Society of Philadelphia,

FRIDAY, *June 13th:* Dakota Medical Society (second day); Rhode Island Medical Society (second day); Yorkville Medical Association (private); Medical Society of the Town of Saugerties.

SATURDAY, *June 14th:* Obstetrical Society of Boston (private).

OBITUARY NOTES.

Zachariah P. Dennler, M. D., of Long Island City, died on May 27th, aged fifty-two years. He was a native of Lyons, New York, and the son of an expatriated German Lutheran clergyman. He attended the Geneva Medical College, graduating in 1861. During the entire period of the late war he was in the hospital service, chiefly in the vicinity of Washington. During the greater part of the twenty-five years he had resided at Long Island City he had filled some public position, either in connection with the police surgeoncy or the health office, and he was for a long time chief medical adviser to the Long Island Railroad Company.

Arthur Julius Pollock, M. D., the senior physician at the Charing Cross Hospital, London, died on May 11th, in the fifty-sixth year of his age. He was, as we learn from the Medical Press and Circular, a son of the late Baron Pollock, and for twenty years held the chair in medicine in the school at the hospital named. His fatal illness was pericarditis, supervening upon an attack of influenza, by which he had been seriously prostrated. He was an extremely popular medical teacher.

James Henry Pooley, M. D., who for many years practiced medicine in Dobb's Ferry, N. Y., died on Tuesday, the 3d inst., in England, his native country, where, having retired from practice, he had been living for the last few years. Dr. Pooley obtained his medical education in England, but came to this country at an early age. He achieved distinction as a practitioner, and was highly esteemed by his professional brethren.

Letters to the Editor.

VANCE'S BAG-PIPE IRRIGATOR.

NEW YORK, *April 24, 1890.*

To the Editor of the New York Medical Journal:

SIR: A recent and valuable addition to the outfit of the antiseptic surgeon is the "bag-pipe irrigator" devised by Dr. Ap Morgan Vance, of Louisville, Ky. His plan, as described in the Medical Mirror, is "to thoroughly disinfect a rubber gas-bag which has a capacity of about three gallons, and supply it with a rubber tube and stop-cock. This can be filled with filtered (Pasteur) distilled water or Thiersch's solution and carried in the buggy to the bedside, where it is placed in a tub of hot water and made warm enough to irrigate any wound or cavity, the assistant being able to regulate the force of the irrigating stream by holding the 'bag-pipe' under his arm."

This is certainly a great boon in private operations, where it is often impossible to get surgically pure water even by boiling, and it is to bring this practical idea more prominently before the profession that this letter is written.

E. K. CALDWELL, M. D.

Proceedings of Societies.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of May 6, 1890.

The President, Dr. LANDON C. GRAY, in the Chair.

The Work of the Society.—Before introducing Dr. Gray, the newly elected president, Dr. G. W. JACOBY, the retiring president, reviewed the work done by the society during his term of office. He thought that the society's work had excited pretty general interest, and that it was to be commended for the active part that it had taken in the matter of reform in the public care of the pauper insane. In another direction also had it drawn to itself the attention of outsiders; this was upon the question of the treatment of epilepsy and chorea by the correction of ocular defects. Other work which had aroused interest was the report of the committee appointed by the speaker, at the January meeting, to examine into and report upon the bill known as the "Gallup Lunacy Bill." That part of the report which had excited most comment was the closing recommendation that "A clause should be introduced into the bill providing that nothing in the lunacy laws of the State shall be construed to interfere with the reception and treatment of acute cases of insanity in chartered general hospitals, in the same manner and under the same condition as patients suffering from other diseases are there received and treated, provided that such hospitals have suitable accommodations approved by the State Commission in Lunacy." That there was something radically wrong in our system of treating insanity would not be denied even by the most enthusiastic supporters of these methods; the small percentage of recoveries obtained was of itself the best support of this statement. Also that the progress of medical science in reference to the causes and prevention of insanity had not kept pace with the progress of the science in other directions, especially neurology, must be acknowledged. It was probable that either of the proposed plans—the opening of special wards for the reception of the acutely insane in the same manner as other patients were received in the sixty-three chartered general hospitals of the State, or the erection of a special hospital—would do much toward remedying the acknowledged defects. One other great obstacle to scientific advance in our knowledge of insanity and its treatment was the complaint that the general practitioner had no practical knowledge of insanity; that all he could learn on the subject was derived from books. Medical education in psychiatry had not made and could not make any progress so long as our asylums, as at present, either were not open to students at all, or were not open to them under conditions which afforded facilities for study; while nowhere was any provision made for systematic teaching. These ideas represented the kernel of the entire question, as was shown by the opinion of the various eminent professional men that comprised the Committee of the London County Council. In addition to their testimony, the following questions had been sent to every medical superintendent of a public asylum in

England and Wales: 1. "Is it your opinion that the organization of public asylums for the insane, as at present conducted, makes sufficient provision, or allows sufficient opportunity, for the investigation of the pathology of insanity by the light of modern methods of research, or for the careful adaptation of medical or surgical treatment to the cases of individual patients?" 2. "If you recognize deficiencies in the direction indicated above, is it your opinion that they might be supplied, at least to some extent, by a hospital in London in which the work of the resident medical officers would be supplemented by that of a sufficiently numerous medical and surgical visiting staff and by that of a skilled pathologist?" The preponderance of opinion in the answers received had been in favor of the proposals. The question, therefore, as to whether special wards in general hospitals or a special hospital was the most practicable would soon receive, at any rate, a partial solution in London. If the society could succeed in having the other side of the question practically tested in one of our hospitals, the experiment would undoubtedly be watched with very great interest. The entire matter would still require a great deal of work and attention before anything satisfactory could be done, and the speaker hoped that the good work which the society's committee had begun would be continued under the direction of his successor in office, Dr. Landon Carter Gray, whom he took great pleasure in introducing as the new president.

Dr. Gray then took the chair and briefly acknowledged the compliment implied by his election to the office.

Can we diagnosticate Hyperæmia and Anæmia of the Brain and Cord?—This was the title of the president's inaugural address. (See page 561.)

Dr. W. R. Birdsall said he must admit that he had reached about the same conclusions as the reader of the address; that it was next to impossible to determine between the conditions of hyperæmia and anæmia by the nervous symptoms alone. There were, however, times when it was undoubtedly possible to recognize these states from the general condition of the patient's system and from the course and character of the disease. Still, he thought there existed a great deal of confusion as to how the terms should be used. For instance, the term anæmia was often employed to express a mere malnutrition of the part. This application would be inappropriate in reference to the sense in which the president had discussed the subject. If it were a question whether the organs were supplied with too much or too little blood, of course variations in the quality of the blood must make considerable difference in the resulting symptoms, but he failed to appreciate how such symptoms could throw any light on the question. He believed that a large part of the symptoms which were brought forward as evidence of hyperæmia and anæmia were really conditions of disease due to malnutrition of the parts from the presence of poisonous substances in the blood, and not necessarily evidences of an excessive or defective supply of blood.

Dr. W. M. Leszynsky said that some years ago it had been the rule to diagnosticate cerebral hyperæmia upon the lines laid down by Dr. Hammond. The correctness of the diagnoses so made was assumed from the results of the treatment. Patients in whom such symptoms were supposed to be developing were treated with bromides and ergot, because these drugs were thought to act directly on the blood-vessels and the cerebral circulation. Many patients were benefited and the diagnosis was therefore considered to be correct. The conclusion had, however, not been sustained. Investigation had demonstrated also that the condition of the retinal blood-vessels could not be taken as wholly indicative of the state of the circulation in the brain.

Dr. Mary Putnam Jacobi remarked that many of the clinical symptoms which were most nearly associated with anæmia of the brain and which implied malnutrition of the cortex were unattended by any symptoms of general anæmia. The question of anæmia, therefore, so far as the brain was concerned, was complicated by the possibility of there being simply a vasomotor spasm in the brain, which would diminish the blood-supply and yet give no impression of general anæmia.

Dr. M. Allen Starr expressed his hearty agreement with the statements and conclusions of the writer of the paper. He was perfectly satisfied as to the impossibility of diagnosticating between cerebral anæmia and hyperæmia. To pretend to do this was merely an evidence of incompetency on the part of the physician.

A Clinical Study of Forty-seven Cases of Paralysis Agitans.—Dr. Frederick Peterson read a paper on this subject. (To be published.)

Dr. Crego, of Buffalo, said he had seen a number of patients suffering from this disease who had improved under treatment by suspension. Charcot advised this method in combination with the employment of gymnastic exercise. At his clinic they were in the habit of giving hyoscyamine with belladonna, and the patients were thereby much benefited. Dr. Ferrier had called the speaker's attention to a case in the Asile Ste.-Anne which was improving under the use of hyoscyamine; at least the tremor had diminished until it was no longer apparent, but the walking difficulties had increased.

Dr. Birdsall called attention to the fact that loss of consciousness was sometimes a symptom of Parkinson's disease. Patients would experience vertigo and have convulsive seizures followed by loss of consciousness and the usual symptoms of a paralytic attack.

Dr. Leszynsky mentioned the case of a woman suffering from this disease whom he had been observing carefully. For a time she had made the most marked improvement under treatment with hyoscyamine, but after a while the drug had lost its effect. When suspension became the fashion he had suspended her. The result had been simply marvelous. The woman was at once able to do sewing and such work as had been impossible to her before for two or three years. The speaker had been uncertain whether or not the result was due to some mental process. The patient was, however, suspended again and again, and, for a time, with marked improvement. At length the effect began to diminish and she complained so of the discomfort caused by the treatment that it was abandoned. The speaker had recently seen a remarkable case which had come under notice at the Post-graduate Medical School. The patient had at first presented the usual symptoms of passive tremor, some festination, and some rigidity, decidedly manifest on one side. The history of the case was one of combined traumatism and fright. The remarkable feature was that on one side the patient had shown all the symptoms of multiple sclerosis.

The President said that some fifteen years before he had had under his care, or lack of care, a case of paralysis agitans which had come on after fright. The patient was crossing in a ferry-boat when a baby jumped from its mother's arms into the river. Buoyed up by its long dress, it had floated until it was rescued. The woman had watched all this, and on going to the cabin had noticed that her upper eyelid was quivering uncontrollably, and this had gone on to the development of typical Parkinson's disease.

Dr. Peterson said that the case Dr. Birdsall had referred to was not included in the list of forty-seven recorded in his paper. He thought the term paralysis agitans was not happily chosen, for there was really no paralysis, and sometimes there was no tremor. He thought that the substitution of rigor for rigidity and tremens for tremor would perhaps cover the ground.

A Tumor of the Cerebellum.—Dr. J. A. Booth reported the case of a patient who had been seen by him for the first and only time two days before death. The general health of the patient had always been good, with the exception of an occasional headache, until last August. At that time he began to complain of pain and discomfort in the back part of the head and neck. He was more irritable and could not apply himself as formerly without causing fatigue and increasing the distress in his head. The pain seemed more severe on rising. Later in the same month he had a fainting attack as he was about to go up stairs. His wife stated that there were no convulsive movements, no nausea, and no vomiting, but that his extremities were cold and his lips blue. He recovered from this attack in a few minutes. No staggering in the gait was noticed at that time. During the summer and autumn the pain in the occiput became more constant. There gradually developed an uncertainty in his gait, with a tendency to fall to the left or forward. He began to lose flesh and strength, the pain became more acute, and finally, four weeks ago, he had been obliged to take to his bed. For the last three weeks there had been present almost constant hiccough, with collections of mucus in the throat. He had had some difficulty in swallowing, and at times his speech had not been distinct. Ten days ago he had complained of food collecting between his cheek and the teeth on the left side. His memory was good, there was no trouble with the vision, there was no dyspepsia, the bladder functions were normal, and the bowels were regular. There was no syphilitic history. The family history was negative. The patient, when seen, was in bed lying on his left side with the body bent forward and downward. He answered questions intelligently, although some words were pronounced rather thickly and indistinctly. He complained of severe pain over the occiput and the back of the neck. There was no tenderness to pressure on any part of the head. The muscles of the extremities were flabby. The tongue deviated slightly to the right, but was not tremulous. There was no anæsthesia of the face, but there was slight loss of sensation over the tips of the fingers of the left hand. There was marked paresis of the lower facial muscles of the left side, also of the left arm and hand. When he raised his hand to his face, ataxia was seen to be pronounced. There was no paralysis of the ocular muscles. The left pupil was larger than the right, and its reaction to light was not so good. Nystagmus in a lateral direction was present to a marked degree. The ophthalmoscope revealed neuro-retinitis in both eyes. Grasp, R., 20–19; L., 5–4. The muscular sense was poor in the left hand. There was no paralysis of the lower extremities. The knee-jerks were absent. There was no clonus. The pulse was 60. There was no cardiac murmur. From the history of the case and the symptoms enumerated, the diagnosis was made of tumor of the cerebellum, involving the middle lobe. On March 21st the patient insisted upon assuming the upright posture, when he suddenly became very pale and died.

The autopsy was held fifty-six hours after death. The bones of the skull were normal. With the exception of a few slight adhesions along the longitudinal sinus, the dura mater was normal. The subarachnoid fluid was increased in amount, especially at the base. There was no decided flattening of the convolutions; the whole brain was pale and soft. The vessels of the pia mater were quite prominent. The cortex and ganglia appeared normal except for the prominence of the puncta vasculosa. On the lower surface of the left lobe of the cerebellum, occupying its inner third, extending over the median line, pressing upon the medulla, the fourth ventricle, the vermis, and the spinal cord, there was a tumor four inches long, three inches and a quarter wide, and two inches and three quarters in its vertical diameter. The tumor was irregular in outline and broken down in places, and encroached upon the ninth, tenth, and twelfth nerves of the left side. The tumor was shown to the meeting. Microscopically, it consisted of a proliferation of small round cells, in places showing myxomatous degeneration. The blood-vessels were quite abundant, and here and there in the sections deposits of blood pigment were present. The sudden death in this case was probably due to paralysis of the heart and respiration caused by pressure on the pneumogastric. From the situation and size of the growth, it was interesting to note the absence of vomiting, of any great excess of fluid in the ventricles, and of convulsive seizures.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPÆDIC SURGERY.

Meeting of April 18, 1890.

Dr. V. P. Gibney in the Chair.

Hæmatoma of the Sterno-cleido-mastoid Muscle.—Dr. A. B. Judson presented a patient, four weeks and a half old, who had been referred to him as having congenital torticollis. There was a long, fusiform tumor in the course of the muscle, the hardness of which suggested a short and fibrous sterno-cleido-mastoid. There was, however, but little shortening and there was no wryneck. The condition was supposed to be the result of injury to the muscle in parturition. Dr. B. E. Hadra, of Texas, had reported two cases which had been relieved by tenotomy, and Dr. F. D. Brooks, of New Hampshire, had followed with a report of three cases of recovery under expectant treatment, or the use of friction and local applications. In the present case a favorable prognosis had been given without special treatment.

A New Bed for Use in Hip Disease.—Dr. A. M. Phelps presented a little girl with hip disease who had been treated on an improved surgical bed, which was also exhibited to the Section. When she came under his care there was flexion nearly to a right angle, with adduction, sinuses, and an abscess, and the liver was already enlarged. His improved bed consisted of the ordinary iron bedstead found in hospitals, to which was added a convenient arrangement for the application of traction. The iron bed-posts at the foot of the bed were continued upward much higher than those at the head. An iron cross-bar slid up and down on these foot-posts, and could be fastened at any height, so as to make traction at any angle desired. This cross-bar carried a pulley, which could be adjusted laterally, so as to make traction directly in the line of deformity. The side-bar of the bedstead was also fitted with an adjustable pulley for the purpose of making lateral traction. This apparatus cost about five dollars, and could be supplied by Reynders either with or without the bedstead. The patient whom he exhibited had been treated by traction in this bed; but this was not sufficient to overcome the deformity. Under chloroform, the tensor vaginæ femoris, the fascia lata, the adductors longus and magnus, and the contracted anterior border of the glutæi muscles and the rectus femoris were divided. Traction with a weight of eight pounds was then applied in the line of the deformity, and a force of two pounds at right angles to this. After two months the deformity had been for the most part reduced, and his splint, with crutches and a high shoe, were then applied to prevent relapse, and they would be continued until the case was cured.

A Case of Congenital Lock-jaw.—Dr. R. H. Sayre presented a patient, and said that no definite history could be obtained concerning this boy except that he was five years of age and that nothing unusual had been noticed about the jaw until a short time ago. The boy was quite intelligent, and no other joints were affected. The jaw appeared to be subluxated backward, and the deformity was presumably congenital. The recession of the jaw and the apparent atrophy on both sides added to the interest of the case. The speaker said that, before adopting any operative measures, he would attempt to relieve the patient by stretching, and for this purpose would employ a wedge-shaped instrument devised by Dr. L. W. Hubbard, and presented last year before the Society of the Alumni of Bellevue Hospital. It consisted of two plates of steel, fastened together by a separable hinge and capable of being separated at the other end by turning a screw. Having partly separated the jaws of the instrument, a cork could be inserted between the plates near the hinge and the action of the screw reversed, when the instrument would exert considerable pressure on the molar teeth.

Rhachitic Posterior Curvature of the Tibiæ.—Dr. W. R. Townsend presented two cases of this affection. He said that the dispensary records showed that about two years ago there was a well-marked knock-knee and rhachitis in one patient, who returned last week with the present peculiar condition of the tibia. Since then the other patient, with a similar deformity, had come under observation. The latter presented an increased growth of one portion of the tibia, amounting almost to an exostosis. There was also a well-marked "rhachitic rosary." Macewen had called special attention to these secondary bone formations on the inner side of the knee in cases of knock-knee. The posterior curves of the tibia were rarely seen, these being the only cases met with during the past two years at the Hospital for Ruptured and Crippled.

Rheumatic (?) Arthritis of the Knee.—Dr. S. Ketch reported the history of a case as follows: On July 3, 1888, he was asked to see, in consultation with Dr. Laurence Johnson and Dr. N. J. Hepburn, E. S., single, twenty-two years of age, having a good family history, who had been perfectly well up to the present illness, and denied having had any venereal disease. An examination of the urethra failed to show the presence of a urethritis. Early in May, 1888, he had a slight attack of what was considered to be rheumatism in the left elbow and right thumb, which left these joints in a few days and lodged in the right knee. No other joints became involved, but he grew steadily worse under treatment for rheumatism, and emaciated rapidly after the involvement of the knee. When first seen by Dr. Ketch he presented the facies of extreme suffering; the knee joint was flexed beyond 90°, and was very much swollen and excessively tender; there was manifest atrophy of the thigh and calf; pulse, 120; temperature, 103·5° F. He had had no chill. Anodynes were constantly required, and his general health was failing rapidly. The urine was abundant and was free from albumin. Urates were in excess. The acute symptoms continuing unabated after the constant application of ice and the administration of morphine and salicylate of sodium for several days, the patient was etherized on July 12th and the knee straightened with the exercise of as little force as possible. Adhesive plasters were applied from below the knee to above the malleoli, and plaster of Paris over this, with re-enforcements by steel bars, the joint being left exposed. The limb was elevated, ice-bags were applied to the knee, and traction was made in a straight line by a weight of ten pounds. This was followed by speedy relief and a reduction of the temperature to 100° F. On the following day the swelling had greatly increased, but the limb could be handled quite freely. The joint was firmly bandaged and the ice continued. On July 16th Dr. Gibney saw the patient and advised a continuance of the treatment, regardless of the swelling. The patient did not then require anodynes, the appetite was improving, and the temperature had fallen to 99° F. Ice-bags were continued during the month of August, and the local tenderness diminished more rapidly than the pain on motion. When the splint was removed, early in October, there was scarcely any motion at the articulation, and the joint could be freely handled without complaint. A retention splint was applied, and the patient allowed to go about on crutches. In April, 1889, the ankylosis was complete, and he was enabled to return to work. He could at present walk long distances without fatigue, and his general condition was good. The chief points of interest in the case were regarding the ætiology and the treatment. He believed that there were cases of rheumatism like this one in which the rheumatic process was modified or entirely changed in character. The presence of a poison in the system was undoubted, but it was remarkable that it should have been so mild at the time the elbow and thumb were attacked, and then have become so concentrated in the knee joint as to practically destroy it. Rheumatoid arthritis was usually a chronic process involving numerous joints, and eventually crippling them; but such a process was not found in the present instance. The subject of treatment was important as bearing on the treatment of joints affected with rheumatism, and he was positive that his case would have resulted in a bad deformity if he had not in the beginning of his treatment secured a good position of the limb.

The Chairman had seen a great many cases of hæmatoma of the sterno-cleido-mastoid muscle, and they invariably got well. He had often wondered whether, in some cases of congenital torticollis, actual shortening of the muscle had not been caused by long-continued holding of the head in one position, necessitated by the presence originally of a large hæmatoma. In these cases of hæmatoma there was probably laceration of some of the muscular fibers, with escape of the blood into the sheath, or into the muscular tissue itself.

Dr. N. M. Shaffer said that he had made measurements of the length of the sterno-mastoid muscle in these cases, as well as in normal cases, and his observations showed that there was an arrest of development in the affected muscle, which suggested a possible central lesion, involving the spinal accessory nerve. These cases might arise from traumatism, but, unless the destruction of muscular tissue was very great, it would not account for the total arrest of growth.

Dr. Ketch thought that the existence of some deformity in Dr. Phelps's case after such extensive division of the muscles showed the fallacy of depending altogether upon dividing muscles for the rectification of the deformity of hip disease. As long as the bone disease was active, and muscular spasm was present, deformity would return from this spasm, even after division of the muscles.

Dr. Shaffer also thought that division of the muscles offered only a temporary relief. He had frequently seen recurrence of the deformity after such a procedure in diseases of various joints, and especially in cases of tetanoid paraplegia. An examination under ether would determine the amount of muscular resistance; and the breaking up of the intracapsular and extracapsular adhesions, together with subsequent maintenance of the straight position, were all that could be expected in the way of preventing ultimate deformity.

Dr. R. H. Sayre said that much less traumatism was inflicted by dividing the muscles first, rather than by trying to reduce the deformity with the muscles in a state of tension. Dr. Ketch's remarks simply emphasized the importance of proper mechanical treatment after division of the muscles.

Dr. Ketch said that if the reduction of the deformity could be accomplished effectually by mechanical treatment alone he did not see the advantage of the operation. In answer to a question from Dr. Phelps as to what he would do with a deformity which had not yielded after a year's treatment by traction, he said that such a deformity was probably due to intra-articular changes, and was independent of the muscles; and he would therefore prefer exsection or other bone operation.

Dr. John Ridlon wished to join the ranks of those who believed in rapid reduction of the deformity; slow reduction caused needless traumatism. In some cases the deformity could be rapidly reduced by mechanical means and without anæsthesia; others required anæsthesia, and still others were not reducible even then. In this latter class the first indication was a division of the soft parts, and the second was to maintain the good position until a cure was effected. The average case of flexion through an arc of forty-five degrees required from twelve to eighteen weeks of treatment with the traction splint for its reduction; and the advocates of the traction splint had just confessed that the deformity would recur after such treatment. The deformity should be overcome in at least a fortnight. Thomas's hip splint would keep the leg straight and prevent flexion, adduction, and abduction.

Dr. Judson had not found that the muscles seriously interfered in the acute stage of the disease with the reduction of the deformity; and he considered that the reduction could be effected by slow and painless methods without any harm to the patient. The difficulty in overcoming the deformity was a purely mechanical one, arising from insufficient leverage—only the short distance from the acetabulum to the crest of the ilium.

Dr. Phelps, in closing the discussion on his case, said that the muscles were not divided to overcome reflex muscular spasm, but to overcome deformity; and in obstinate cases of long standing, like the one just presented, this was a safe procedure, while excision of the hip joint was a serious one. He had not wished to cut the muscles more deeply, and the deformity, although not completely reduced at the time of operation in October, was being constantly diminished by the treatment employed. Statistics showed that a very small percentage of patients treated solely by mechanical means recovered without deformity; and therefore a resort to operative methods in a certain class of cases and subsequent mechanical treatment offered better hopes of success. He should be sorry to cut a tendon and have the case relapse; it would indicate improper treatment. He did not believe in trying to overcome the deformity by Thomas's splint or any other. During the treatment, in order to get proper leverage and hold the patient quiet, a long splint was applied to the sound leg, extending to the axilla, and the body, limb, and splint were enveloped in plaster of Paris. No splint could overcome the deformity, or possibly prevent it, which did not pass up on to the thorax. The idea of allowing the patient to walk upon a splint or upon the diseased limb was a heresy which we should eventually renounce. The patient, in his opinion, should use crutches, and he thought that Thomas had struck in the right direction; but the splint should be fitted to the patient, and not the patient to the splint. Extension in a line with the axis of the neck of the femur was also necessary to relieve intra-articular pressure by overcoming the contraction of the adductor and abductor muscles.

Dr. Judson thought the physiognomy of the case of partial ankylosis of the jaw was one of arthritis, and the deformity was directly due to the inability to use the jaw, and was not the result of the peculiar shape of the bone. Operation seemed much more successful than the stretching process.

Dr. Phelps concurred in this opinion, and added that, in his experience, good results had followed resection of one of the temporo-maxillary articulations, as ankylosis was usually found only in one articulation. An incision an inch and a quarter long was made along the zygoma, and the articulation exposed. Chiseling away the articular surface was all that was necessary to cure the case. His cases had presented evidences of arthritis. The ankylosed joint was always on the side of non-development.

Dr. Shaffer remarked that if he had not heard the history of the case he would have supposed that the patient had had Pott's disease, and had been treated with an apparatus in which the chin-piece had been forced too far backward. He thought there was much rigidity on both sides of the jaw. If the parts relaxed under ether, the evidence would be in favor of arthritis; but if not, it would indicate a permanent contracture, and would demand operation.

The Chairman said with reference to the case of posterior deformity of the tibia that nothing but an osteotomy would correct the deformity. While under ether, the operator should endeavor to bring the fragments nearly into line, and then apply retentive apparatus. Subsequently a supracondyloid osteotomy would be needed. By doing a Macewen's or a Macormac's operation, the subsequent dressings would in great measure correct the antero-lateral curvature. He had frequently seen this occur, sometimes to a marked extent. It was possible that the long rest in bed might have made the bone more yielding.

Dr. Shaffer thought that the case of arthritis presented by Dr. Ketch answered very well the complete description given by Niemeyer of arthritis deformans. He considered this nothing more than chronic articular rheumatism, and he had seen it both with and without high fever. It closely resembled gonorrhœal rheumatism, even in cases where gonorrhœa could be absolutely eliminated.

Dr. H. W. Berg said that he had seen a case of gonorrhœal rheumatism of the ankle joint, which was quite thoroughly ankylosed, and did not recover its function for nearly two years. In such cases the lesion affected chiefly the soft parts, the inflammatory products binding down the tissues so firmly that the joint was virtually ankylosed.

Dr. Sayre had seen a severe case of arthritis similar to the one presented. After confinement to bed for eight months, suffering from severe pain and high fever, the knee joint seemed to be absolutely ankylosed and the patella immovable; but vigorous and persistent massage had secured, after about a year, pretty fair movement. The fact that the joint in the case presented was a little tender was in favor of the ankylosis not being complete, for the tenderness arose from the pain caused by an almost imperceptible motion of the joint. Persistent and careful efforts at moving the knee joint, not sufficient to cause pain lasting many hours, would probably give the patient a movable joint.

Dr. Judson called attention to the admirable position of the limb, remarking that a perfectly straight limb was much more stable than one bent at ever so slight an angle. Patients with a stiff knee should wear a "lift" on the shoe of the sound side, to enable the stiff knee to readily swing past the other, and so avoid awkward tilting of the pelvis at each step.

Dr. Phelps thought that in Dr. Ketch's case there was fibrous ankylosis, and that by breaking this up motion could be secured. In one such case, while he was forcibly reducing the deformity, the femur was fractured without the exercise of much force; and he called attention to this because, after prolonged rest in one position, the bone frequently underwent fatty degeneration, sometimes only a shell of bone remaining. Union of the fracture in his case took place normally. He did not think there was much danger of exciting inflammation by forcible manipulation in these cases unless the joint had previously been purulent.

Dr. Shaffer's experience had led him to believe that there was considerable danger of exciting inflammation by such treatment; and he would prefer a stiff joint in good position to incurring such risks.

Dr. Ketch, in closing the discussion, said that he believed his case belonged to a class which had never been accurately described. In ordinary cases of arthritis deformans there was involvement of other joints. This was not true of his case; and the sudden onset of such acute symptoms and the speedy occurrence of ankylosis were certainly unique. His patient had far too useful a limb to make him desire to incur any risks by employing forcible manipulation.

Book Notices.

Outlines of the History of Medicine and the Medical Profession. By Joh. Hermann Baas, M. D. Translated, and in conjunction with the author revised and enlarged, by H. E. Handerson, M. A., M. D. New York: J. H. Vail & Co., 1889. Pp. 10–13 to 1172.

It is well that there are a few physicians in these modern days who are able to turn aside from ordinary professional paths to explore the catacombs of medical literature. For a German to undertake such a task is not exceptional, but for an American to delve in anything savoring of antiquity is rare indeed. Dr. Handerson is to be complimented upon carrying out a prodigious and yet a thankless undertaking—an invaluable research to the few, a collection of rubbish to the many. And yet, if more of us scanned these pages, how often would our fondly-cherished original ideas seem well known to Hippocrates or Galen, our newly-discovered methods be found to have been discarded by Oribasius or Haly Abbas!

BOOKS AND PAMPHLETS RECEIVED.

Cyclopædia of the Diseases of Children, Medical and Surgical. The Articles written especially for the Work by American, British, and Canadian Authors. Edited by John M. Keating, M. D. Vol. III. Illustrated. Philadelphia: J. B. Lippincott Co., 1890. Pp. xv–1371.

Electricity in the Diseases of Women, with Special Reference to the Application of Strong Currents. By G. Betton Massey, M. D., Physician to the Gynæcological Department of Howard Hospital, etc. Second Edition, revised and enlarged. Philadelphia and London: F. A. Davis, 1890. Pp. xii–240. [Price, $1.50.]

A Treatise on Orthopædic Surgery. By Edward H. Bradford, M. D., Surgeon to the Children's Hospital, etc., Boston, and Robert W. Lovett, M. D., Surgeon to the Samaritan Hospital, etc., Boston. Illustrated with 789 Wood Engravings. New York: William Wood and Company, 1890. Pp. viii–783.

Clinical Diagnosis; the Bacteriological, Chemical, and Microscopical Evidence of Disease. By Dr. Rudolf v. Jaksch, Professor of Special Pathology and Therapeutics, etc., in the German University of Prague. Translated from the Second German Edition by James Cagney, M. A., M. D., etc. With an Appendix by William Stirling, M. D., Sc. D., etc. With Numerous Illustrations (partly in Colors). London: Charles Griffin and Company. Philadelphia: J. B. Lippincott Company, 1890. Pp. xxiv–398. [Price, $6.50.]

Diabetes Mellitus and Insipidus. By Andrew H. Smith, M. D., Professor of Clinical Medicine and Therapeutics at the New York Postgraduate Medical School and Hospital, etc. Detroit: George S. Davis, 1890. Pp. 74.

The Clinical Use of Prisms; and the Decentering of Lenses. By Ernest E. Maddox, M. D., late Syme Surgical Fellow, Edinburgh. Bristol: John Wright & Co., 1889. Pp. iv–7 to 113.

Étude anthropométrique sur les prostituées et les voleuses. Par le Docteur Pauline Tarnowsky. Avec 8 tableaux anthropométriques et 20 dessins. Paris: E. Lecrosnier et Babé, 1889. Pp. v–226. [Prix, 5 francs.] [Publication du Progrès médical.]

Transactions of the American Orthopædic Association. Third Session, held at Boston, Mass., September 17, 18, and 19, 1889. Volume II.

Stories of a Country Doctor. By Willis P. King, M. D., Member and ex-President of the Missouri State Medical Association, etc., Kansas City, Mo. With Illustrations by T. A. Fitzgerald. Kansas City: Hudson-Kimberly Publishing Co., 1890. Pp. 13 to 397. [Price, $2.50.]

The Doctor in Canada; his Whereabouts and the Laws that Govern him. A Ready Book of Reference. By Robert Wyngard Powell, M. D., Ottawa. Montreal: Gazette Publishing Company, 1890. Pp. ii–5 to 342.

Proceedings of the New York Pathological Society for the Year 1889.

Some Fallacies concerning Syphilis. By E. L. Keyes, M. D., etc. Detroit: George S. Davis, 1890. Pp. vi–71. [The Physician's Leisure Library.]

The Surgery of the Kidneys: being the Harveian Lectures, 1889. By J. Knowsley Thornton, M. C., Surgeon to the Samaritan Free Hospital, etc. Nineteen Illustrations. London: Charles Griffin & Company, 1890. Pp. vii–102.

Twenty-sixth Annual Report of the Trustees of the City Hospital, Boston, with Reports of the Superintendent and Medical and Surgical Staff, Rules for Admissions and Discharges, Prospectus of Training-School for Nurses, etc. 1889.

Intercolonial Medical Congress of Australasia. Transactions of Second Session. Held in Melbourne, Victoria, January, 1889.

Pulmonary Consumption in the Light of Modern Research. By Stephen Smith Burt, M. D. [Reprinted from the Medical Record.]

The Sixty-sixth Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn. April, 1890.

A Consideration of Sexual Neurasthenia. By Bransford Lewis, M. D., of St. Louis, Mo. [Reprinted from the Weekly Medical Review.]

An Experimental Study of Intestinal Anastomosis. By John D. S. Davis, M. D., Birmingham, Ala. [Reprinted from the Times and Register.]

The Anniversary Address before the Medical Society of the State of New York. By Daniel Lewis, A. M., M. D. [Reprinted from the Transactions, 1890.]

Seventy-third Annual Report of the Managers of Friends' Asylum for the Insane.

The Preferable Climate for Consumption; or, the Comparative Importance of Different Climatic Attributes in the Arrest of Chronic Pulmonary Disease. By Charles Denison, A. M., M. D., Denver, Colo. [Reprinted from the Transactions of the Ninth International Medical Congress.]

Vaginal Hysterectomy. By Henry T. Byford, M. D., Chicago. [Read before the Illinois State Medical Society, May, 1889.]

Another Twelve Months of Peritoneal Surgery. Fifty-seven Cases. By Henry T. Byford, M. D., Chicago. [Reprinted from the Journal of the American Medical Association.]

Three Peritoneal Sections performed upon the Same Patient within Nine Months: Vaginal Section, Ventral Section, and Inguinal Section. By Henry T. Byford, M. D., Chicago. [Reprinted from the North American Practitioner.]

Report of the In-patient Department for Diseases of Women, St. Thomas's Hospital, for the Year 1888. By Charles J. Cullingworth, M. D., F. R. C. P. [Reprinted from St. Thomas's Hospital Reports.]

Forty-seventh Annual Report of the Managers of the State Lunatic Asylum at Utica for the Year ending September 30, 1889.

Tubercular Peritonitis; General Considerations; Tubercular Abdominal Tumors; Curability. By William Osler, M. D. [Reprinted from the Johns Hopkins Hospital Reports.]

On the Results of Treatment of Fracture of the Patella without Operation. By William T. Bull, M. D. [Reprinted from the Medical Record.]

The Vagus Treatment of Cholera as exemplified in Returns from the Cholera Hospitals of Malta during the Epidemic of 1887. By Alexander Harkin, M. D., F. R. C. S., etc. [Reprinted from the Dublin Journal of Medical Science.]

Intraligamentous Ovarian Cystoma. By Alexander J. C. Skene, M. D., Brooklyn. [Reprinted from the Medical Record.]

Fifty-seventh Annual Report of the Eastern Dispensary in the City of New York for the Year 1889.

Address before the Pittsburgh Obstetrical and Gynæcological Society, January 9, 1890, by the Retiring President, R. Stansbury Sutton, M. D., LL. D. [Reprinted from the Pittsburgh Medical Review.]

The Relation of Homœopathy to Gynæcology, or Sectarianism in Medicine. By Mary A. Brinkman, M. D. [Reprinted from the Homœopathic Journal of Obstetrics, Gynæcology, and Pædology.]

Hereditary Chorea, with a Contribution of Eight Additional Cases of the Disease. By C. M. Hay, M. D. [Reprinted from the University Medical Magazine.]

Remarks on Hypertrophy and Atrophy of Tissue. By G. Frank Lydston, M. D., Chicago. [Reprinted from the New Orleans Medical and Surgical Journal.]

A Lecture on Sexual Perversion, Satyriasis, and Nymphomania. By G. Frank Lydston, M. D., Chicago. [Reprinted from the Medical and Surgical Reporter.]

The Local Treatment of Syphilitic Phenomena. By G. Frank Lydston, M. D., Chicago. [Reprinted from the Lancet Clinic.]

Twenty-fourth Annual Report of the St. Francis Hospital, New York, for the Year ending December 31, 1889.

Thirtieth Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y., for the Year ending September 30, 1889.

Injuries of the Bladder during Laparotomy; including a Report of Sixty-seven Cases. By A. Reeves Jackson, A. M., M. D., Chicago. [Reprinted from the Journal of the American Medical Association.]

Contributo allo studio dei soffi anemici. Pel laureando Felice Pullè. [Estratto della Rassegna di Scienze Mediche.]

Un cas d'eczéma général aigu à la Bourboule. Par le Docteur Ad. Nicolas. [Extrait de l'Union médicale.]

Lymphatiques des organes génitaux de la femme. Par le Dr. Paul Poirier. Paris: E. Lecrosnier et Babé, 1890. Pp. 3 to 60. [Prix, 2 francs.] [Publication du Progrès médical.]

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By HIRAM N. VINEBERG, M. D.

The Treatment of Scrofulous Glands.—F. Treves (Lancet, Sept. 21, 1889) first undertakes to define what he means by the term "scrofula." According to him, all scrofulous manifestations are due to the tubercular process. The tubercular process is merely an inflammatory process of a peculiar type, which type is due more to the pre-existing state of the tissues than to the existing cause of the inflammation. In the general treatment a long residence on the sea-coast is warmly lauded. That coast which has acres of sea-weed exposed to the sun at low tide is very much to be preferred. The circulation is feeble, hence the strumous child should be clad in woolens. Of medicines, iron, arsenic, quinine, and cod-liver oil are the mainstays. Iodine in the form of Kreuznach water is beneficial. The syrup of the iodide of iron is treated with contempt, and is ranked in value with the royal touch.

The local treatment embraces the following points:

1. Strumous affections of the cervical glands are seldom primary. They are secondary to enlarged tonsils, scrofulous pharyngitis, affections of the mouth and teeth, coryza, ozæna, otorrhœa, phlyctenular ophthalmia, and eczema of the scalp. Hence these conditions first require attention.

2. Specific local applications to the glands are valueless.

3. The most important local measure consists in giving rest to the part. This may be accomplished by the author's splint described in the Lancet, June 5, 1886, or by a simple home-made stock.

4. The foregoing general and local measures will succeed in a great number of cases, but when they fail, operative interference is necessary. Excision of the gland, when feasible, offers the best results and leaves but a small white scar. Some cases will require, for the removal of the diseased glands, thorough scraping out with Volkmann's spoon and the subsequent application of the actual cautery. The treatment by crushing, by solvent or irritant injections, and by the seton is bad. The same thing may be said of cautery puncture.

General Subcutaneous Emphysema following Aspiration of the Chest.—Dr. Julian Evans (Lancet, Feb. 2 and 9, 1889) reports the following interesting case: A child, eighteen months old, had been under treatment for some weeks for broncho-pneumonia. On account of the persistence of dullness and tubular breathing at the right base, empyema was suspected. Aspiration was attempted with Dieulafoy's aspirator, but no fluid was obtained. The puncture was closed in the usual way with wool and collodion. The child coughed a little afterward. About two hours later subcutaneous emphysema set in, and in six or eight hours reached its maximum. It now involved the whole body, forming a prominent collar around the neck and such puffiness of the eyelids as to completely close the right eye, on which side the emphysema was the most marked. The arms and legs were not involved. There was no pneumo-thorax. After twenty-four hours the swelling began to subside, but it was nearly a fortnight before it had completely disappeared from the back and abdomen. For the first two days there was some elevation of temperature (102° F.), and at times alarming constitutional disturbance. The child died suddenly some time after from diphtheria. At the autopsy the lower lobe of the right lung, the one punctured, was found firmly adherent to the chest wall. It contained a large number of dilated bronchi, and the pulmonary tissue between these was converted into tough fibrous tissue. There were also many small tubercular deposits.

Two Cases of Pyæmia in Early Infancy.—Baginsky (Virchow's Archiv, Bd. cx, Heft 3) describes two cases of pyæmia which he observed in infants at the breast. In one the infection took place through the umbilical cord, which was in a condition of purulent inflammation. Then occurred inflammation attended with redness and œdematous infiltration of the extremities. The brownish liquid contained in the cord showed numerous micrococci, which, for the most part, were arranged in chains. Micrococci in abundance were found in all the internal organs. They were so numerous in the kidneys as to lead to a necrosis of structure. The same streptococci in chains were found in the radio-carpal articulation. Cultures of portions of the organs gave streptococci arranged in long chains, which the author looked upon as the *Streptococcus pyogenes.*

In the second case the avenue of entrance was through an inflammatory lesion of the skin, with excoriations. In the kidneys and spleen were found a great number of streptococci which led, in certain parts, to a necrosis of tissue. In these two cases streptococci were found in the organisms of sucklings which resembled the *Streptococcus pyogenes,* the same micro-organism that exists in all cases of puerperal infection. It is interesting to note the close relationship that exists between puerperal affections and suppuration or erysipelas of the newly born.

A Tubercular Tumor in the Right Lobe of the Cerebellum.—Dr. T. C. Railton (Medical Chronicle, July, 1889) publishes a case. The patient, a boy, was five years old, with no family history of consumption. For three months he had occasional vomiting, frontal headache, and a staggering gait, and would fall down at the slightest obstacle. There were no convulsions or impairment of the intellect. There was no squinting, nystagmus, or deafness. The optic discs showed marked haziness. A month later total blindness set in, but the general condition remained about the same. Later on he suffered from the sensation as if he were tumbling. Toward the end he had convulsions, tremor, and *taches cerebrales,* and died in coma. At the autopsy, a solid, rounded tumor, the size of a walnut, was found in the posterior inferior part of the right lobe of the cerebellum, attached behind by a broad base to the dura mater. Microscopically, it proved to be of a tubercular nature. Tubercles were not found elsewhere.

The Ætiology and Treatment of Enuresis Nocturna.—Dr. Oberländer (Deut. med. Ztg., 1889, No. 61) enunciates the following theory: Enuresis nocturna in boys and girls, unless there are found some grave defects in development, is always due to reflex irritation in the urethra or other terminal openings. The neurotic theory of the affection is not sufficiently grounded. The author adduces as evidence for the correctness of his theory the excellent results obtained by circumcision, the tearing apart of adherent preputial folds, and dilatation of narrowed meatus urethræ. Stenosis may occur in other parts of the urethra just as well as at the meatus, and requires similar treatment.

Primary Cerebral Sclerosis in Children.—Richardière (Deut. med. Ztg., 1889, No. 63), in a lengthy article, arrives at the following conclusions:

1. There are several forms of primary cerebral sclerosis in children.

2. Of these there are two which are especially prominent: (*a*) A sclerosis of a whole hemisphere or of an entire lobe; (*b*) a sclerosis which occurs in distributed tuberosities on the surface of the convolutions.

3. The first form extends over a large surface of the brain substance and produces the atrophic sclerosis.

4. The second form produces elevated nodules and increases the cerebral substance forming the hypertrophic sclerosis.

5. The atrophic form is characterized anatomically by diminution of the volume and hardening of the convolutions; histologically, by the development of connective tissue, dilatation of the blood-vessels, and atrophy of the nerve elements.

6. The nodules of the hypertrophic form are made up of connective tissue.

7. The starting-point of these lesions seems to be the vessels. The atrophic lobular sclerosis seems particularly to be an arterial sclerosis.

8. Primary cerebral sclerosis occurs in children between the third and fifth year. Its nature is obscure, although sometimes it follows the infectious diseases.

9. The atrophic sclerosis manifests itself by convulsions, epileptic attacks, paralysis, and contractures, which are of long duration.

10. The symptoms of hypertrophic sclerosis are almost identical, but the change in the intelligence is less marked, and the paralytic phenomena more discriminated. The symptoms are not of such long duration.

11. The prognosis in reference to the intelligence and motility of the children is an unfavorable one.

12. The diagnosis is not difficult when we can exclude hæmorrhage and brain diseases, which lead of themselves to atrophy.

Pertussis treated with Resorcin.—Concetti (Deut. med. Ztg., 1889, No. 68) treated forty-eight cases of pertussis, occurring at different ages, with resorcin. He gave it in doses of from three grains to twenty-two grains, according to age, and every hour or two according to intensity. In all the cases the paroxysms were diminished in number and in severity. In some cases the duration of the disease was lessened. The author claims for this remedy, besides its other advantages, the facility of its administration. Children take it readily in sweetened water.

[We have used the remedy in not a few cases of pertussis, and can not say more of it than of a host of other drugs lauded in that complaint. It seems to be of benefit in some cases, while in others it is of no service at all. It certainly does, however, possess the virtue of being easily administered.]

New Inventions, etc.

A NOVEL HÆMOSTATIC SEPTAL COMPRESSORIUM AND TUBULAR CROWN-DRILL.

By William C. Jarvis, M. D.

The annoyance caused by the occasional occurrence of persistent nasal hæmorrhage in operations upon the septum has induced me to construct the little hæmostatic device pictured below, which is a modification of my nasal clamp described in the Medical Record for May, 1885. It is composed of two steel bars, pivoted at one extremity and fitted with a screw-nut for opening and closing the blades. The face-plate of one blade is capped with rubber, which acts as a cushion for the reception of the tissues pressed against it by the opposite or ring-blade, also properly cushioned. Various portions of the septum can be brought within the opening of the steel ring and successively exposed to the operator's view. The blades come apart throughout the entire extent of the instrument, to facilitate prompt and thorough antiseptic cleansing of its several parts. The peculiar immunity from hæmorrhage and pain (by the practice of Corning's method) exhibited in a case recently treated by me encourages the belief that this little device must prove a useful addition to the septum armamentarium.

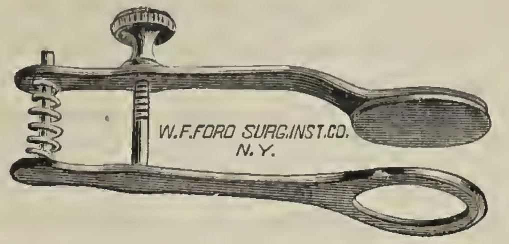

Fig. 1.

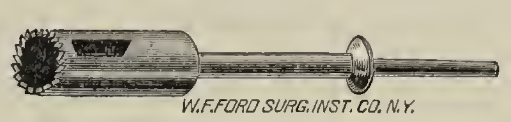

Fig. 2.

An antiseptic crown-drill shown in Fig. 2 has proved in my hands a useful device for cutting away septal obstructions.

A steel knife-blade located just below the serrated margin of the drill breaks up the osseous and cartilaginous core, and the resultant detritus is eventually discharged through a window cut in the side of the instrument. This device enables one to obtain the advantages of the anterior action of the trephine without the objectionable features possessed by Dr. Curtis's instrument, due to the retention of the excised core within the nostril or the drill itself. Both of these instruments can be obtained by applying to Mr. W. F. Ford, Fifth Avenue and Thirty-second Street.

142 Madison Avenue.

Miscellany.

The American Medical College Association.—Dr. Perry H. Millard, of the University of Minnesota, at Minneapolis, the secretary and treasurer of the American Medical College Association, an association formed at Nashville on the 21st of May, in response to an invitation from the medical colleges of Baltimore, informs us that there were fifty-seven colleges represented at this meeting by about ninety-five delegates, several of the colleges being represented by two delegates. "I send you," says Dr. Millard, "the curriculum adopted by this convention. You will observe that colleges to become members of this association must, commencing with the session of 1892, maintain a curriculum requiring before graduation three courses of lectures of not less than six months' duration and an entrance examination requiring a knowledge of composition, Latin, physics, and higher arithmetic. You will perceive that this curriculum, if enforced and lived up to by the colleges, will be a material improvement upon the curriculum of a vast majority of the colleges of the present day. Permit me to state that the spirit of the convention was decidedly in favor of a higher standard of medical education in this country. Our platform received the indorsement of the American Medical Association at its session on the following morning. It will receive the hearty approval of the various State boards of health that have medical laws. The new association is inaugurated under a different environment than that of the old association that went to pieces ten years ago, and we believe that with the strong moral support of a few of our leading journals it will shortly become a potent factor in inaugurating a substantial improvement over the present lax methods of medical education in the United States."

Dr. Millard thus gives the *Rules governing the Admission of Colleges to Membership in the American Medical College Association:* 1. That the colleges shall require a graded course of instruction, covering a period of not less than three courses of lectures of six months' duration each, before graduation. 2. That both oral and written examinations be required of all students. 3. That a thorough course of laboratory instruction be maintained in chemistry, histology, and pathology. 4. A preliminary entrance examination, consisting of: *a*, a composition, written in English, of not less than two hundred words; *b*, the translation of easy Latin prose (it is provided, however, that students be allowed one year to make up any deficiency in this examination); *c*, an examination in higher arithmetic; *d*, an examination in elementary physics. It is provided, however, that candidates who are graduates or matriculates of recognized colleges of literature, science, and arts, or graduates of normal schools supported by the different States, be exempt from the provisions of this examination.

By resolution it was determined that the colleges entitled to representation in this convention should enforce this curriculum at the beginning of the session of 1892–'93.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for May 30th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y......	May 24.	1,613,507	751	..	..	..	..	..	..	1	6	26	30	4
Philadelphia, Pa.....	May 17.	1,064,277	375	..	..	..	..	..	..	8	6	9	3	4
Brooklyn, N. Y......	May 24.	859,612	295	..	..	..	..	..	..	..	1	15	4	4
Baltimore, Md.......	May 24.	500,343	196	..	..	..	..	..	..	2	..	8	3	....
St. Louis, Mo........	May 17.	450,000	138	..	..	..	..	..	..	..	2	4	..	....
St. Louis, Mo........	May 24.	450,000	146	..	..	..	..	..	..	2	2	4	..	....
Boston, Mass........	May 24.	420,000	179	..	..	..	..	..	..	2	1	8	1	...
San Francisco, Cal...	May 16.	330,000	142	..	..	..	..	..	..	..	2	2	..	....
Cincinnati, Ohio.....	May 23.	325,000	109	..	..	..	..	..	..	4	1	6	..	3
Detroit, Mich........	May 17.	250,000	71	..	..	..	..	..	..	..	2	7	..	....
Cleveland, Ohio.....	May 3.	240,310	111	..	..	..	..	..	..	1	..	3	4	4
Cleveland, Ohio.....	May 10.	240,310	98	..	..	..	..	..	..	1	..	2	2	3
Milwaukee, Wis......	May 24.	240,000	53	..	..	..	..	..	..	2	1	5	..	....
Minneapolis, Minn...	May 17.	200,000	42	..	..	..	..	..	..	1	..	1	..	....
Minneapolis, Minn...	May 24.	200,000	51	..	..	..	..	..	..	..	..	3	5	....
Kansas City, Mo.....	May 24.	180,000	37	..	..	..	..	..	..	1	..	..	2	....
Denver, Col..........	May 23.	150,000	54	..	..	..	..	..	..	3	..	5	6	....
Providence, R. I.....	May 24.	130,000	50	..	..	..	..	..	..	..	..	1	..	1
Indianapolis, Ind....	May 23.	129,346	32	..	..	..	..	..	..	..	2	..	..	....
Richmond, Va.......	May 24.	100,000	52	..	..	..	..	..	..	..	..	..	4	1
Toledo, Ohio........	May 23.	92,000	25	..	..	..	..	..	..	..	..	..	..	....
Fall River, Mass.....	May 24.	69,000	21	..	..	..	..	..	..	..	..	..	..	....
Nashville, Tenn.....	May 24.	68,531	15	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C......	May 24.	60,145	38	..	..	..	..	..	..	..	..	..	..	....
Manchester, N. H....	May 24.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.........	May 24.	42,000	16	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y...	May 24.	35,000	9	..	..	..	..	..	..	..	..	..	1	. .
Altoona, Pa..........	May 17.	34,397	9	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y........	May 17.	26,000	11	..	..	..	..	..	..	1	..	..	..	....
Auburn, N. Y........	May 24.	26,000	11	..	..	..	..	..	..	..	..	1	..	....
Newton, Mass.......	May 24.	22,011	9	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill......	May 17.	16,000	......	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	May 17.	15,000	4	..	..	..	..	..	..	..	..	..	..	....

The Surgery of the Abdomen, with some of its Responsibilities.—In a paper with this title, read before the American Medical Association at its forty-first annual meeting, Dr. Thomas H. Manley, of New York, said that previous to the introduction of anæsthesia, abdominal surgery was an unexplored field. Since Lister's time surgeons of every grade had freely used the scalpel in intestinal injuries of every variety. A reaction had set in, and conservatism in dealing with lesions of this nature was now in the ascendant. In severe ventral traumatisms it was a concern of grave importance whether the cases be left to Nature's unaided powers, or, bearing in mind the obscure nature of all abdominal lesions, one be not justified in making an exploratory incision. From authentic statistics it was evident that in cases of gunshot wounds and stabs of the intestines the recoveries were much more numerous from the expectant plan of treatment than from operative procedure. When we reviewed the processes by which the full functional activity of the injured parts was restored by the *vis medicatrix naturæ*, we should not be surprised at the results due to the expectant or non-interfering plan. Shock took place from injury to the abdominal contents, hæmorrhage followed, after the absorption of which inflammation succeeded. If the intestinal wound be small, scarcely any of its contents escaped. In gunshot wounds the valve-like opening was immediately closed by the contraction of the mucous coat, and peristalsis became temporarily paralyzed. If the patient survived, inflammation ensued which was limited in extent. It was necessary as a factor of repair. Laparotomy under all circumstances must be regarded as an operation of the greatest magnitude, notwithstanding the strictest antiseptic precautions. The pump-like action of the diaphragm interfered with primary union in man, and the median incision left a tendency to hernia. In resection of the intestine for strangulated hernia in the male only one case of permanent recovery was reported, and that by Dr. Prewit, of St. Louis. Though anæsthesia and antiseptics had revolutionized surgery, our progress in dealing with intestinal lesions was little further advanced than it was a century ago, and it was owing to doubt regarding the nature and extent of the lesions.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

A STUDY OF ALCOHOLISM AS IT OCCURS IN THE BELLEVUE HOSPITAL "CELLS."*

By CHARLES L. DANA, M.D.,
VISITING PHYSICIAN TO BELLEVUE HOSPITAL.

In the basement of Bellevue Hospital are two suites of rooms familiarly known as "the cells," and devoted to the care of cases of delirium tremens and the other forms of acute alcoholism. Each suite consists of a poorly lighted corridor, into which open six rooms. These rooms are about ten by twelve feet in measurement, with low ceiling and one strongly barred window, through which filters a melancholy light. The furniture is severely simple, and consists only of two or three low and narrow iron cots, with the occasional addition of a robust and ascetic stool. The number of persons arrested for intoxication in New York city every year is about 30,000. Most of these are fined or sent to the island, or both. But, when a poor person is found suffering from the effects of alcohol to such an extent that he evidently needs medical care, he is sent to these Bellevue cells. The number of persons annually making this enforced visitation is over 3,000 (in 1889, 3,428), of whom nearly one third are women (959). Such cases are spoken of as cases of "alcoholism," but this term covers several different forms of alcoholic intoxication, as will be seen hereafter. A certain number are simply cases of very bad drunkenness; a larger number consists of persons who have been drinking continuously until they are complete physical wrecks, nauseated, sleepless, and exhausted. The remainder—and they make up over one half—come in with or soon develop the symptoms of delirium tremens or alcoholic mania in some form.

The *social history* of these poor creatures is, I think, not without interest. It is the history of the vast majority of pauper and indigent victims of alcohol in New York city, for no other hospital accommodates such cases except for a short time, so that the "Bellevue cells" are the eventual resting-place of these the rashest worshipers at the shrine of Bacchus.

Sex.—Three fourths of the persons who go through these experiences are men.

Age.—They are of all ages from twelve years to seventy, but the decade thirty-one to forty includes the most, and the number rapidly diminishes after the age of fifty. The women are a little the younger.†

Occupation.—It is not the day-laborers, but the mechanics, artisans, and small tradesmen that furnish the greatest proportion of cases, while the women are for the most part either married or widows so called. Drivers, waiters, painters, and liquor-dealers supply a very considerable quota. It is the indoor workman, however, who is oftenest the victim.

Season.—The number of cases is least in the winter and greatest in the summer. This may be, however, only because more of the subjects are out on the streets and liable to observation and arrest during the warm weather. Autumn is least favorable to alcoholism, yet the number is, on the whole, a very constant one month in and month out.

Race.—Fully one half the persons are of Irish birth, while a little over a third are native-born. The preponderance of Irish parentage, even in the native-born, however, is very great. In my own studies of nervous and mental diseases in connection with immigration‡ I found an excessive number of Irish-born among the insane and neurotic. Mr. Rounds, in his recent article in the Forum, December, 1889, finds a like racial predominance among our criminals, as does Dr. H. I. Bowditch.#

In the year 1888 there were 85,049 persons arrested for violation of the law, of whom 52 per cent. were of foreign birth and 44 + per cent. of Irish birth. Such statistics seem to deserve serious attention from friends of this virile race The Hebrew is rarely seen in the "cells."‖

Symptoms.—The history of a case of acute alcoholism in detail I have often obtained from the patient, and it usually runs somewhat as follows: He began to drink two or three weeks before reaching the "cells." Having got the taste for the liquor, his work has been abandoned and he has done nothing but drink day and night ever since. He has taken whisky, gin, beer, ale—everything that he could get hold of, bad whisky predominating. At last he can no longer eat, and even the liquor is not well retained, yet he is consumed with a burning thirst. His tongue is dry and foul, the bowels are constipated, his hands tremble, his knees knock together, and as he sits his heels beat a tattoo on the floor. He can get no sleep, yet he is exhausted for want of

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* This paper (read before the Society of the Alumni of Bellevue Hospital, March 5, 1890) is based, so far as its statistics are concerned, upon a record of 3,428 cases admitted in 1888-'89, and 317 admitted in 1886; total, 3,735 cases. The table appended gives an analysis of these.

† The age of those entering inebriate institutions—i. e., dipsomaniacs—is:

At Fort Hamilton.	
15 to 20	5
20 to 30	125
30 to 40	231
40 to 50	165
50 to 60	52
60 to 70	22

At Dalrymple House (Eng.).	
20 to 30	37
30 to 40	73
40 to 50	34
50 to —	8

The age of persons with alcoholic insanity is:

Huss (Sweden).	
20 to 30	14
30 to 40	44
40 to 50	57
50 to 60	23
60 to 65	1
Total	139

B. Lewis (England).	
15 to 25	29
25 to 30	52
30 to 40	35
35 to 40	50
40 to 45	50

The worst decade in this country is 30 to 40; in England, according to Lewis, the years 25 to 30 are especially bad.

‡ Journal of Social Science, July, 1887.

# Report of the Massachusetts Board of Health, 1872.

‖ Alcoholism occurs least in Jews. Among European nations it is found least in Italians, next in Spaniards. It is very prevalent in Russia, Denmark, Belgium, and Norway and Sweden.

it, and prays for something to produce it. His mind is oppressed with dread, he fears the slightest noises, frightful hallucinations begin to appear. Still, the real delirium has not usually developed when the patient first comes into the hospital, but it begins about twenty-four hours after abstention from liquor. Technically, the attendants personally experienced in caring for these cases speak of this as the time when the rum has "soaked in." * In fact, the delirium is due partly to the withdrawal of the stimulant and partly to the starved condition of the nervous tissues. The patient then presents the ordinary symptoms of an acute mania. The popular idea that visions of snakes and other monsters predominate is not correct. The hallucinations and delusions are mainly those of being pursued or attacked by some one or some thing; very often the fear of fire or of being burned is dominant. The ideas change rapidly and are always depressive and painful. In the majority of cases the delirium lasts only twenty-four or forty-eight hours. The patient gradually quiets down, and when he has got a good sleep convalescence begins.

Termination and Complications.—Nearly five per cent. of the patients die, however, of sheer exhaustion, after a continuous delirium of two or three days, during which little or no food is retained. The fatality is much greater among the men than the women (5 per cent. to 1·7 per cent.). Besides the five per cent. that die in the cells, a larger number (142 males, 43 females, among 3,000) are transferred to the hospital wards or to the insane pavilion. Here many suffer from alcoholic pneumonia, a type almost uniformly fatal, or pass into a condition of low muttering delirium, develop a slight fever, gradually become comatose, and finally die of exhaustion. Post mortem, these patients are found to have pale, watery brains, with no distinct inflammation; occasionally there are capillary hæmorrhages in the pia, or there is a hæmorrhagic pachymeningitis. In every three or four hundred cases of alcoholism one finds a case of alcoholic paralysis (multiple neuritis), generally in women, and often in fat women. These patients often suffer from low, restless delirium; they also often have phthisis, and die with it or pneumonia.

Alcoholic paralysis (neuritis), however, more often occurs in those who have not become distinctly alcoholic; and most cases of this trouble come directly into the wards as cases of subacute paralysis. Then we get a history of alcoholic excess, combined with perhaps phthisis or the puerperium or some other depressing cause.

Out of 3,000 patients, over 40 became insane or were so when they entered. Acute alcoholism, therefore, is not a very frequent exciting cause of insanity, but it is an important one. Alcohol is, however, thought to be the cause of twenty or thirty per cent. of insanity (Magnan and others).

Forms of Acute Alcoholism.—It is unfortunate that a closer study and differentiation of the cases which enter Bellevue are not made. This is partly due to the inadequate accommodation and nursing provided them; but this is not altogether the reason, for something is due to the indifference of the house staff and attending physicians. The routine practice is to put down all the cases as acute alcoholism or delirium tremens, or perhaps just plain "drunk." As a matter of fact, there are brought to the cells the following forms of acute alcoholism:

1. Simple drunkenness, or acute alcoholic intoxication, with occasionally lethal alcoholic poisoning.
2. Delirium tremens of the ordinary type.
3. Febrile delirium tremens, a type distinguished by the presence of a decided temperature (102° to 105°), excessive and general tremors of the whole body, and very rapid loss of muscular strength; profuse sweats.
4. Cases of true *mania a potu*, or delirium inebriosum.

In addition to this, distinctions are to be made as to whether the patient is a dipsomaniac (in hospital parlance, a "rounder"), or whether the patient is simply one who has been on a gigantic spree, his condition being the resultant of an accidental concatenation of hilarious social conditions, and not, as in dipsomania, the result of inherited psychopathic tendencies.

A considerable minority of the cases are of this latter class (five to ten per cent.).

A careful distinction between these conditions might lead to more brilliant therapeutic results than are now obtained.

Thus simple drunkenness requires little medication.

Febrile delirium tremens is excessively fatal, and it needs careful watching and the patients can not stand powerful hypnotics like morphine and hyoscyamia.

Mania a potu is the result of a very little alcohol acting upon a hyperæsthetic and highly predisposed organism. Drugs to produce elimination of alcohol and relieve gastric symptoms are not so much needed as sedatives and nourishing food.

Treatment.—The mortality of the cases of acute alcoholism is very considerable. If we include the cases of those that die from pneumonia and other complications it must reach nearly ten per cent. The treatment, therefore, is a matter of some moment. As at present carried out in my term of service, it is about as follows:

The patients when they first come in are given a cathartic and ordered a diet of milk and beef-tea. If they reject food, they are given powders of bismuth and capsicum or rhubarb and soda. Alcohol is at once stopped unless there are complications such as pneumonia. In the milder cases they are put upon a mixture of bromide and chloral, with sometimes paraldehyde, taken every two hours till sleep results. If this is inefficacious, a hypodermic injection of morphine and amorphous hyoscyamine is given, and this is usually sufficient. Hyoscyamine alone is not a good drug, but with the morphine it seems to act well. If it were practicable, the patient would be placed on a large mattress in a padded room and left unrestrained, or else put in such an apparatus as Magnan's jacket, which allows of some movement and does not impede respiration.

As it is, we have to tie most patients down, as otherwise they tear their clothes off and destroy the bedding. The women are usually more easily controlled than the men, for they have not been able to get so much liquor into them. Despite all that can be done, the patient will sometimes not sleep, or, if he does, the sleep is only a narcotism, from which he awakes without being refreshed; the delirium continues and death ensues from exhaustion.

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* Alcohol remains in the tissues from three to eight days after the last drink.

It is to be noticed that the cases of alcoholism are more numerous than formerly and are yearly increasing. This I know personally from my experience twelve years ago. I can not get actual statistics, however, going back for a longer time than 1886:

	Male.	Female.	Total.	DEATHS.		
				Male.	Female.	Total.
1886	......	......	3,079	......	......	115
1887	2,631	863	3,494	118	14	132
1888	2,135	875	3,010	127	14	141
1889	2,682	1,015	3,697	155	19	174

Such statistics as I can get show, as may be seen, a great increase in mortality.

Prophylaxis.—One may wonder how these unfortunates get the liquor that enables them to keep up the long "soaking" necessary to produce delirium tremens, for this condition is one not very easily produced. The system must be prepared for it by a good many years of hard drinking. There are practically no cases of acute alcoholism and absolutely no deaths from it before the age of twenty. Even after the system is deteriorated by excesses it takes at least a week to get up the "horrors," and usually a longer time. The secret of the continuous drinking lies in the cheap liquor and the treating and credit system. There are licensed saloons in the city where for five cents a man can get a tumblerful of whisky and where the stuff is sold in bottles at the rate of twenty cents a pint. Two drinks of this fiery fluid will, I am told, completely stupefy or craze a man or woman. From a slight personal investigation of samples, I quite believe this to be true. I am told that the prostitutes from well-kept houses who get delirium tremens upon champagnes and good liquors are much more easily managed and more successfully treated than the poor men who have for weeks guzzled five-cent whisky, stale ale, and unripe beer.

It seems as though something ought to be done to lessen this fearful tribute to alcohol. One thing might at least be attempted—viz., the prevention of the sale of cheap and poisonous liquors. These rapidly produce the worst and most intractable forms of alcoholism. There is a law restricting the sale of poisons, and no worse poisons are dealt out than the raw spirits sold as whisky at five cents a tumbler. Our health and police boards would find a legitimate field of work in this direction. The closure or supervision of the raw-whisky and stale-beer saloons would lessen the cases of alcoholism at once. If public opinion is not ripe for doing more, let it at least enforce the ordinary provisions against the sale of the poison drank by the majority of pauper inebriates. If the cry is raised that the poor man should be allowed to drink, at least insist that his liquor be pure, and cheapened by water and not by fusel oil.

I do not mean to imply that cheapness and badness of whisky are the main factors in causing severe alcoholism. As a matter of fact, the whiskies in question are diluted with water and owe their cheapness to this fact and to their being new, containing, no doubt, other alcohols than the ethylated.[*] Nor is there any salvation in malt liquors and light wines, as has often been supposed. These drinks, though relatively harmless in Europe, are not well borne by Americans. They produce disorders of digestion and of the excretory glands. Americans can not drink, as a rule, without finally injuring themselves; those who can be moderate get along best probably on pure whiskies and light wines free from sugar or acids. But new whisky is full of poison, and the State might at least forbid its use, as well as that of cheap, stale, and unripe malt liquors. Meanwhile the moralist and sanitarian can try and inoculate the masses with the principles of total abstinence or moderation, according to his point of view.

Statistical Table.

	Male.	Female.	Total.	DIED.			RATIO OF MORTALITY.		
				Male.	Female.	Total.	Male.	Female.	Aver'ge
Total	2,469	959	3,428	123	17	140	5 p.c.	1·7p.c.	4·8p.c.
Age:									
12 to 20	39	41							
21 to 30	502	260	......	28	5				
31 to 40	875	310	......	49	6				
41 to 50	625	117	......	22	2				
51 to 60	247	92	......	22	1				
61 to 70	78	45	......	......	1				
71 to 80	24	13							
Occupation:									
Professions	54								
Clerks and salesmen	239								
Tradesmen	387								
Laborers	589								
Drivers	113								
Waiters	64								
Painters	64								
Liquor	50								
Condit'n of w'm'n:									
Single	......	234							
Married	......	396							
Widows	......	327							
Season:									
Summer	656	261	917						
Autumn	614	214	828						
Winter	556	227	783						
Spring	643	256	899						
Nativity:									
Ireland	1,171	483	1,654						
Great Britain	66	72	138						
United States	954	337	1,291						
Germany	209	30	239						
Italy	6	5	11						

50 West Forty-sixth Street.

SOME POINTS IN THE STUDY OF INEBRIETY.[†]

By MATTHEW D. FIELD, M. D.

I desire to present for your consideration some points in the study of inebriety. While I recognize the impossibility of calling your attention to more than a few points in the time allowed, yet the great importance of the subject has induced me to bring it before you this evening. The jurist, the legislator, the clergyman, the philanthropist, sociologist, fanatic, and layman have all taken their part in the discussion of this subject. It is no wonder, for the subject is of most vital importance to all members of the community. These people have all become discouraged and are now more inclined to relegate the case to the medical profession, where it certainly belongs. We must meet the subject and master it.

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[*] According to Alglave, it takes 620 grammes, or about a pint and a quarter, of pure ethylic alcohol to kill a man of one hundred and sixty pounds weight, while 88 grammes, or about three ounces, of amylic alcohol would do the same. Amylic alcohol is six times as poisonous as ethylic alcohol.

[†] Read before the Society of the Alumni of Bellevue Hospital, March 5, 1890.

How far inebriety is vice and how far it is disease we must determine. Such laws as are necessary for its control and suppression we must frame for the legislator. What are the civil rights and responsibilities of the inebriate we must define. There is the vice of intemperance and drunkenness, and there is inebriety the disease and inebriety the symptom of disease. Those physicians who have given the largest amount of consideration and study to this subject all recognize an element of disease. Every writer on inebriety speaks of the close resemblance with its ally, insanity, and the treatment of the two has passed through almost the same stages.

The theory and belief in demonology and "possession" and its remedy of exorcism availed nothing in the treatment of the insane. Punishment with the lash and execution cured not the lunatic. The terrors of hell did not calm the maniac; the beauties of heaven did not brighten the melancholiac, nor did discourses on the wisdom of Solomon awaken the dull cerebration of the dement. The same remedies have been tried in vain upon the true inebriate.

Norman Kerr defines inebriety to be "an overpowering impulse to indulge in intoxication at all risks." About one hundred years ago the great Dr. Rush attributed drunkenness to a "morbid state of the will." In December, 1817, Salvatori, in a paper before the Physico-medical Society of Moscow, first gave the condition its true standing, for he took it from among the moral diseases and placed it among the physical, at the same time maintaining that, like other diseases, it could be cured with material remedies. He says concerning "ebriositas," "it can scarcely be doubted, therefore, that some fundamental infirmity lurks not in the mind but in the body, affecting the mind secondarily and inducing a true insanity. It is not easy to fix on the true seat and nature of this infirmity, but the symptoms and its causes point to a disordered state of the abdominal ganglionic system of nerves allied to that which causes in children the ravenous appetite, constituting the disease bulimia, and in adults the wide-spread disorders we are in the custom of calling hypochondriacal and hysterical." Tapeworm, he affirms, brought on the craving in nine of the fifty cases treated by him.

Dr. David Skas, physician to the Royal Edinburgh Asylum, says: "Dipsomaniacs lose all control over themselves and drink to any extent possible. In fact, they will drink anything they will get hold of, and if they can not get spirits, they will drink hair-wash or anything of the kind. I have known a lady to drink shoe-blacking and turpentine. These cases are mostly hereditary. They are very often caused by disease, by blows on the head, sometimes by hæmorrhage, sometimes by disease of the brain. All these cases I mention to show that this is really a disease and not mere cases of drunkenness."

Esquirol said: "There are cases in which drunkenness is the effect of accidental disturbance of the physical and moral sensibility, which no longer leaves to man liberty of action."

Dr. James Crichton Brown, recently of the West Riding Asylum, England, says: "Dipsomania consists of an irresistible craving for alcoholic stimulants. . . . Sometimes the craving becomes altogether uncontrollable."

Dr. Alexander Peddee, of Scotland, says: "Intemperance as the result of a disease is attributable to an impulse which the patient can not control."

Macnish, Anatomy of Drunkenness, says: "There are some persons who will never be drunkards, and others who will be so in spite of all that can be done for them. Some are drunkards by choice and some by necessity."

The American Association for the Cure of Inebriates was founded in 1870 and proclaimed as its creed, "Inebriety, a disease that is curable in the same sense that other diseases are, its primary cause being a constitutional susceptibility to the alcoholic impression, which may be inherited or acquired." This society exists to-day in a flourishing condition. In 1876 it began publishing the Quarterly Journal of Inebriety. A similar society exists in England.

In 1844 Dr. J. Edward Turner declared inebriety to be a disease, and thereafter devoted his life to the establishment of inebriate asylums. His ventures met with many reverses, yet they lived long enough to demonstrate the correctness of his views, and to-day sixteen inebriate asylums in successful operation are monuments to the principle for which he fought to the last.

The works of Dr. Norman Kerr, of England, and of Dr. Joseph Parrish, Dr. T. D. Crothers, Dr. L. D. Mason, Dr. T. L. Wright, Dr. Albert Day, Dr. Robert Bird, and many others in this country, have contributed facts tending to show inebriety to be a disease and the only true basis for treatment.

Many of the writers on this subject are looked upon as extremists and fanatics, and this may be so to some extent. Yet I am fully convinced from my own experience that they are working in the right direction, and in this direction only will be found the true solution of the problem. And I believe the present modes of dealing with inebriates to be very wrong from every point of view. There is without doubt drinking and drunkenness the vice, and as such it must be considered and treated. Frequently we meet with inebriety that has the characteristics of a disease in itself. Yet it seems to me to be usually only the symptom of some diseased condition, and that successful treatment can only be adopted as we correctly understand this condition.

You ask, How are we to distinguish between the vice and the disease? I reply, Only by carefully studying each individual case. The patient's age must be considered. An individual who has been temperate up to the age of twenty-five or thirty will rarely, if ever, suddenly give way to drunkenness without the operation of some physical cause. Predisposing as well as exciting causes must be sought for. The congenitally defective classes furnish large numbers of inebriates. Heredity exercises a strong influence. "Visiting the iniquity of the fathers upon the children unto the third and fourth generations" is nowhere more clearly shown than in the case of the drunkard. The following case furnishes a good example: Three members of one family present themselves for treatment. The elder son frequently gets drunk, is restrained by moral and physical remedies, and recovers. The second son is a periodic drunkard; family pride, the prayers of a devoted mother, and all family and moral considerations have availed nothing; he is only controlled by absolute restraint. The third child, a daughter, is epileptic. The father was a brilliant lawyer, who had been for many years a drinking man; was drunk regularly every Sunday and every holiday. Was elected judge, when he said it did not look well for a judge to get drunk, and he stopped drinking. This illustrates vice in the father transmitted as disease to the children, the degree being intensified in each succeeding child. The children of the insane and the epileptic are predisposed to inebriety as the children of the inebriate are predisposed to insanity.

The sex of your patient must be considered—the nervous disturbances that frequently occur during the approach of puberty, the physical commotion and mental excitement of the climacteric period. Sexual excess, pregnancy, prolonged lactation, and frequent child-bearing are all causes of inebriety in the female. The employment is to be inquired into. Enforced idleness, overwork, overstrain, irregularity in work, especially that which enforces irregularity in sleep and in the hours; amount and quality of food; in fact, all forms of employment that tend to reduce and destroy nerve force cause a craving for stimulants or, what is more dangerous, the use of intoxicants to deaden or paralyze acute sensibility. Work-rooms and dwellings must be examined. Dr. Robert Bird states that "among operatives who pursue their work in badly ventilated rooms drunkenness is always prevalent. Indeed, it is so among all classes who spend much of their time in places where the atmosphere has a superabundance of carbonic acid and an insufficiency of oxygen. So circumstanced, men instinctively crave for alcohol. It is so because alcohol lessens the out-turn of carbonic acid within the body. The journeymen tailors of London, and other London tradesmen also, continued to be immoderately drunken till the poor-law commissioners had their work-rooms enlarged and ventilated, as also the general condition of the inmates improved. Subsequent to this they grew to be comparatively sober. . . .

"All underfed people, almost without exception, delight in alcohol. This fact is attributed to the action of alcohol in retarding and diminishing the waste of organized tissue.

"All savages drink greedily when they have a chance; but then all savages are underfed and badly nourished."

Any habit, disease, or condition that exhausts the nervous power of an individual may cause inebriety. Excessive hæmorrhage, diarrhœa, exhaustion of fever, malaria, tapeworms, shock, both physical and moral, and many other like conditions, may lead to inebriety.

Dr. Robert Bird, formerly a brigade surgeon, East Indian army, related the following cases:

Case I.—I. H., an infant, while suffering from malarious diarrhœa, showed an abiding desire for gin and brandy too. When she could get it, she would drink as much as ten or even twelve ounces a day. This amount made her happy, but never very drunk. It was her chief sustenance for some months, and under its influence the diarrhœa got well. The craving for drink disappeared with the disease. When I last heard of her she was the sober mother of a family, living with her husband in a village near Newcastle, England.

Case II.—H. R., a scrofulous boy of two years, while suffering from chronic dysentery, developed an insane appetite for brandy. When this was first offered to him he drank it greedily and screamed for more, and for weeks brandy was his cry, his joy, and his support. Ultimately he got rid of his dysentery and drink-craving together.

Case III.—E. B. was the wife of a river steamboat captain. Her husband told me "she drank like a fish," and had been drinking so for years. She drank anything she could get, and when ordinary drink was not forthcoming, she would drink eau de Cologne, surreptitiously purchased from Hindoo peddlers. As she also suffered from rheumatism of the womb and copious leucorrhœa, I had her removed to hospital for treatment. Cure of the womb affection in a great degree cured the drink-craving also, but not quite. Oxide of zinc, as recommended by Marcel, of London, and wild thyme, as recommended by Salvatori, combined with seclusion in an institution, where she acted as sewing mistress, were required to complete the cure of this. She ultimately returned to her husband, reformed and thoroughly restored, nor did she in the subsequent years relapse, so far as I know.

Case IV.—M. W., when I first came to know her, was the mother of eight children. In her last confinement she lost a great deal of blood, and subsequently developed a mad wish for liquor, to the great grief of her husband, a steady mechanic. It turned out on inquiry that she had for years previously been in the habit of starving both herself and her children for purposes of economy. Iron, good food, and change to a more temperate climate in this case cured the anæmia and the drink-craving too.

Dr. L. D. Mason, a man of large experience, places traumatism as the most frequent exciting cause of inebriety, especially injuries to the head. He says: "At least one in seven of the two hundred and fifty-two cases [thirty-six] became inebriates from blows on the head."

The inebriety of insanity must always be thought of. That inebriety is a very frequent symptom of insanity I have had ample opportunity to verify. I must admit that I have more than once sent insane men to the alcoholic ward, the real condition being for the time masked by the alcoholic condition. Inebriety may be a symptom of any form of insanity. It is very frequently an early symptom of general paresis of the insane, of senile dementia. It occurs also in the exaltation of mania and the depression of melancholia. I might say right here that we must not forget that the insanity of inebriety is more frequent than the inebriety of insanity, and that the two conditions must not be confounded.

I might illustrate what I have said by giving any number of cases from my own experience and the writings of others, but space will not permit, and I must content myself with this brief and general statement of the subject. If these views of inebriety be correct or even in the right direction, then our treatment of the inebriate should be changed. Our remedies as medical men must be adapted to the diseased condition.

The safety of the community demands quarantine against pestilence and contagious diseases, and calls upon the medical profession to instruct the legislator in drafting proper laws and for aid in the intelligent execution of such laws, as well as intelligent treatment of the individual afflicted with such disease. In spite of protests from fanatics and the ignorant, the intelligence of the people has asked the physicians for proper suggestions regulating the care as well as the treatment of the insane. The welfare of individuals and society demands that the inebriate be governed and treated according to his condition—if it is vice, then as vice; if disease, then as disease.

At the present time, in this State, a person may indulge his impulse to drink without interference unless he commits a breach of the peace. Fortunes may be squandered, intellects may be irrevocably destroyed, human bodies may be wrecked, homes desolated, and future generations cursed with an heredity foreboding nothing but misery. How often are we consulted about some brilliant inebriate who is destroying home, health, fortune, and intellect, and the question comes, "Doctor, what can be done?" We ask, Is he crazy? Oh, no. Well, wait until he is, and then the law will permit us to act. The inebriate, as a rule, will not submit to treatment. He has not the force to follow directions, for in fact he has lost the power to act. He must continue until he is actually insane or gets into the clutches of the law for some criminal act, when he is not by nature a criminal, only hurled onward by a disease that has to terminate in death, insanity, or the prison. In the sight of the law inebriety is an aggravation of the offense, and punishment proportionately greater, except where the crime in itself calls for the full penalty of the law, when the judge can only lash the victim with words when he pronounces the sentence of death, which he invariably does.

In the petty cases that occupy our police courts it is "drunk and disorderly"—ten days or ten dollars. If the inebriate has the money he cares not; more likely the wretched wife pays the fine out of her earnings, and thereby robs herself and her children of the little food they otherwise would have had. Just think—these poor children handicapped by a terrible inheritance, deprived of that little nourishment that might give them some power to resist the physical curse that already lies upon them. If the fine is not paid, of what avail are ten or thirty days in the work-house? The records of the work-house show that it has no effect to deter men from drinking. I have seen the record of one woman who was sentenced to the work-house in this city twenty-eight times in twenty-five months. They are out long enough to get drunk again and have the process started that will bring another degenerate being into the world.

I ask you to carefully study your cases of inebriety—and you will all meet with plenty of them—bearing these points in mind. I also hope that at some future meeting we may have a general discussion of this subject and learn the results of each other's cases. A great field is open before us, the boundaries of which I have scarcely skirted. Let us enter in, make new discoveries, and help a despised and suffering class of human beings, often more sinned against than sinning.

THE RELATION OF PNEUMONIA TO INFLUENZA IN BOSTON.*

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When I received the flattering invitation of your chairman to appear here this evening and speak on pneumonia as it appeared in Boston during the recent influenza epidemic, my first thought took the form of a wish that one more worthy of the honor had been selected; my second was how the subject could best be approached.

As it happened, though I have had cases both before and since, not a single one of my private patients had pneumonia during the influenza period. I saw a number of cases with other physicians, and had an unusual number in my wards at the Massachusetts Hospital; but consultation and hospital cases are not the most favorable classes for forming an estimate of the general severity of a prevalent disease. Either the disease is apt to be more severe, or the condition of the patients to be one of lowered vitality. The experience of any one individual may be very misleading. For instance, my hospital cases were of a very severe type, and the mortality was frightful—fifty per cent. I was thus led to believe that influenza pneumonia is of special gravity, a belief which the general statistics of both hospitals, with a mortality of thirty per cent., apparently show to be erroneous.

After some thought it seemed to me that the best plan to follow would be to collect and analyze all the cases of pneumonia admitted to the two larger hospitals in Boston—the City, and the Massachusetts General—and to study the death returns from pneumonia and bronchitis at the City Hall. The City Hall statistics are not as trustworthy as those of the hospitals, inasmuch as any man, woman, or child can, in Massachusetts, style himself or herself a physician and sign a death certificate.

It has been assumed that the influenza period in Boston extended from December 10, 1889, to February 1, 1890, and the hospital cases of pneumonia are all included between these dates. The City Hall returns have been taken for December, 1889, and January, 1890, as the labor of compilation would have been greatly increased by beginning at December 10th.

In the first place, allow me to consider briefly whether the past epidemic differed in any marked respect from those which have preceded it—a question not wholly foreign to the special subject of the evening. It seems to me probable that it did not. It was remarked in Boston, as also, if I err not, in other places, that the most striking feature of the disease was the prominence and frequency of nervous symptoms; the predominance of these, on the whole, over catarrhal symptoms, respiratory or abdominal. But I am inclined to think it possible that this is due simply to the fact that of late years our attention has been called more actively to the very important part played by the nervous system in disease of varied kinds. General prostration and violent pains in different situations are dwelt upon more or less, almost without exception, by those writing on the disease since the earliest times. It must be remembered, also, that a period of forty years has elapsed since the last widespread epidemic of influenza, and that this period has borne a rich crop of fresh knowledge in all branches of our science. Moreover, in this, as in previous epidemics, the most dreaded concomitant, complication, sequel, or feature has been pulmonary inflammation, a term which, in this connection, seems to me to demand some consideration, in that it is inclusive of two processes quite different in origin and nature. It is not necessary before this audience to dwell on the distinction between lobar or croupous and lobular, catarrhal, or broncho-pneumonia. But it may be observed that, while in most cases the two processes are easily enough differentiated at the bedside, under certain circumstances the case is far different. Croupous pneumonia does not always take a lobar distribution, sometimes involving only a portion of one or more lobes, central or peripheral, often terminating by lysis. Broncho-pneumonia may, on the other hand, especially with the aid of atelectasis, take a distribution resembling, to say the least, that of the truly lobar variety, particularly the double form. The number of cases in which a certain diagnosis of croupous pneumonia can be reached is much larger than obtains with the catarrhal variety, and the personal equation enters more largely into the diagnosis of the latter, one observer attributing the fine râles to capillary bronchitis, modified respiration and dullness, if present, to atelectasis; another observer inferring, perhaps, from the same signs the presence of lobular inflammation. These remarks are made because many writers speak of broncho-pneumonia as the commoner affection in influenza, the catarrhal respiratory form of which would certainly seem to pave the way for its origin. But, as far as the Boston experience goes, broncho-pneumonia was relatively rare. The diagnosis of broncho-pneumonia was made in seven hospital cases, five proving fatal, but not followed by autopsy.

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* Read before the New York Academy of Medicine.

Two cases which I saw—one in consulting, the other in hospital practice—came clinically under the lobular rather than the lobar form. Both proved to be tubercular—one chronic but entirely latent until the influenza period; the other of the acute miliary variety. The latter was also interesting in that of ten sputum examinations, made with due care during life, nine were negative, and in the single positive one the bacilli were so scanty that some doubt was felt. Yet the lungs were crammed with miliary tubercles, and there was much secretion. These cases led me to question whether two other fatal cases in young adults, which I saw in consultation and in which no consolidation could be detected during life and no post-mortem was made, were not also tubercular, the bacilli of a latent focus or foci finding the opportunity for rapid growth and dissemination in the bronchial catarrh and prostration involved in the influenza.

The next question to claim attention is the relation of pneumonia to influenza. Is pneumonia a concomitant or a sequel of influenza, or does it stand in some more intimate relation thereto? An analysis of the Boston cases does not enable me to answer this question satisfactorily to myself.

The only means which I have for estimating the frequency with which pneumonia and influenza are associated is furnished me through the kindness of Henry Saltonstall, Esq., the treasurer, and M. E. Parker, Esq., the agent, of the Pacific Mills at Lawrence, Mass.* Of 4,242 employees of the mills, 1,699 (or forty per cent.) were severely enough affected by the influenza to be kept from work an average of six days and a half each. Of these 1,699, 8 had pneumonia, as far as can be learned; 2 were fatal. There is some liability to error here, but it is certainly small. This would indicate that less than one half of one per cent. of fairly severe influenza was followed or accompanied by pneumonia.

Table I shows that the number of deaths returned in Boston as due to pneumonia was greatly increased, especially in January, over the previous five years, while, as far as one can judge, the whole number of cases of the disease was increased in still larger proportion, inasmuch as the ratio of fatal cases in the two hospitals was nearly four per cent. less than the average for the corresponding period in the previous five years (Table II).

Table I.

Deaths from Pneumonia reported at the Boston City Hall for the Months of December and January, 1884–'85 to 1889–'90, inclusive.

	1884–'5.	1885–'6.	1886–'7.	1887–'8.	1888–'9.	1889–'90
December ..	141	74	113	95	68	105
January....	103	83	91	183	92	332
Total...	244	157	204	278	160	437

Table II.

Cases of Pneumonia admitted to the Boston City and the Massachusetts General Hospitals from December 10th to February 1st, for the Years 1884–'85 to 1889–'90.

	1884–'5.	1885–'6.	1886–'7.	1887–'8.	1888–'9.	1889–'90
Total cases..	33	26	30	68	40	127
Deaths.....	14	4	12	26	13	38
Mortality.	42+%	15+%	40%	39%	32½%	30%

It was a matter of general observation that the first cases of influenza were mild, and the correctness of this observation is fully borne out by Table I, which shows that the deaths from pneumonia in December, 1889 (105), did not materially exceed the average for that month during the preceding five years (98). But Table III shows that the number increased steadily, week by week, from that ending

Table III.

Deaths from Pneumonia reported at the Boston City Hall in December, 1889, and January, 1890, by Weeks.

Week ending— 1889:	Deaths.	Week ending— 1890:	Deaths.
December 7	9	January 4	89
" 14	13	" 11	117
" 21	17	" 18	93
" 28	36	" 25	38
		February 1	25

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* Boston Med. and Surg. Journal, 1890, i, p. 251.

on December 7, 1889, to that ending on January 11, 1890, and then rapidly declined again. The increase was comparatively slight until December 21st, when it became rapid, especially in the week December 28th to January 4th. In the last week of January the number of fatal cases fell again to about the average of the previous five years.

Table IV shows the proportion of hospital cases in which pneumonia was preceded by grippe symptoms (forty-three per cent.). It will be observed that in twenty-nine per cent. such precedence distinctly did not take place, the number of these cases (36) being rather less than the average admitted to the hospitals the previous five years (43). Under the head "doubtful" are classed those cases in which pneumonia came on so soon, or the initial symptoms were so ill defined, that it can not now be determined whether these symptoms were prodromal of the pneumonia or whether they belonged to the influenza. In the fourth class the histories are silent on this point.

Table IV.

Analysis of all Cases of Lobar Pneumonia admitted to the Boston City and Massachusetts General Hospitals, Dec. 10, 1889, to Feb. 1, 1890, with Reference to the Precedence of Grippe Symptoms, Localization, Complications, and Termination—Lysis or Crisis, or Death.

	Preceded by grippe symptoms.	Not preceded by grippe symptoms.	Doubtful.	No history.	Total.
Total, number	55	36	26	10	127
" per cent.	43	29	20	8	100
Single lobe, number	39	17	14	6	76
" " per cent.	71	47	54	60	60
Unilateral, more than one lobe, number.	6	11	5	4	26
Unilateral, more than one lobe, per cent.	11	31	19	40	20
Double, number	10	8	7	..	25
" per cent.	18	22	27	..	20
Complicated, number	13	11	14	5	43
" per cent.	24	31	53	50	34
Recovery by crisis, number	15	7	3	..	25
" " " per cent.	44	44	21	..	36
Recovery by lysis, number	19	9	11	5	44
" " " per cent.	56	56	79	100	64
Death, number	11	14	8	5	38
" per cent.	20	39	30	50	30

It therefore appears that in a number of cases, nearly large enough for an average year, pneumonia of the ordinary type of onset occurred, while in a larger number of cases the pneumonia first came on the scene after the invasion of influenza. It does not seem to me safe to draw any positive deductions from these figures, but they appear to suggest that pneumonia is not a primary manifestation of influenza. Influenza may be merely a predisposing cause of pneumonia, or the latter may be truly a secondary manifestation of the former.

Other points shown by Table IV are the extent of the consolidation, the frequency of complications, the mode of termination of favorable cases, and the mortality.

In sixty per cent. of all the cases a single lobe was involved; in twenty per cent. more than one lobe on the same side; in twenty per cent. the pneumonia was double. In an indeterminable number of cases—a number larger, I am inclined to think, than in ordinary years, though I speak on this point with much hesitancy—the consolidation was irregular in distribution. That is to say, either a portion of only one lobe was involved, or else, in addition to complete consolidation of one lobe, patches of varying size were detected in another, the patients recovering or dying without further development of such patches.

In thirty-three per cent. of all the cases there were complications or sequelæ. Of these the most frequent were alcoholic delirium, phthisis, empyema, otitis, or facial erysipelas. Under this head there does not seem to be occasion for further remark. Of the 69 favorable cases* in which this point has been determined, sixty-four per cent. ended by lysis, thirty-six per cent. by crisis. If the temperature fell to the normal point within thirty-six hours, the case was classed under crisis; in far the larger proportion of these the fall occurred within twenty-four hours. There is, as far as I know, no generally accepted standard of sharp distinction between crisis and lysis—a fact which is embarrassing in this connection. I may be wrong, but it is my impression that ordinarily the proportion of cases ending by crisis is larger than it was this year during the influenza period.

Table V.

Lobar Pneumonia in the Boston City Hospital and Massachusetts General Hospital, December 10 to January 31, 1890.

AGE.	Cases.	Male.	Female.	Fatal.
10 and under	2	2	0	0
10 to 20	14	9	5	2 (14%+)
20 to 30	41	28	13	7 (17%+)
30 to 40	31	25	6	10 (32%+)
40 to 50	16	12	4	8 (50%)
50 to 60	13	9	4	7 (54%−)
60 to 70	1	1	0	1
70 to 80	1	0	1	0
Unknown	8	8	0	3
Total	127	94 (74%)	33 (26%)	38 (30%)

Table V shows the age and sex of the 127 hospital cases. Nearly seventy-five per cent. were males, and the mortality increased with each decade up to the fifth, remaining stationary thence to the seventh.

Table VI.

Fatal Pneumonia and Broncho-pneumonia reported at the Boston City Hall. Comparison between December, 1889, and January, 1890, and the average of the same months during the previous five years, with reference to age.

AGE.	Aver'ge deaths, Dec., 1884–'8.	Deaths, Dec., 1889.	Per ct. increase	Av'rage deaths, Jan., 1885–'9.	Deaths, Jan., 1890.	Per cent. increase
10 and under	36·2	37	..	36	56	55
10 to 20	2·6	3	..	4	14	250
20 to 30	8	26	225	8·8	43	388
30 to 40	10	22	120	17	54	218
40 to 50	11·8	28	137	15·6	57	265
50 to 60	11·4	18	58	11·8	50	324
60 to 70	11·2	15	34	13	38	192
70 to 80	9	8	..	10·2	28	175
80 to 90	3·8	3	..	2·2	13	500

Table VI compares the deaths from pneumonia and broncho-pneumonia returned at the City Hall in December,

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* Some of the charts could not be found, so that the whole number of cases analyzed with reference to crisis and lysis is only 69, although 89 recovered.

1889, and January, 1890, with the average for the corresponding months of the previous five years with reference to age. The table shows that—

1. In December, 1889, there was no increase under twenty or over seventy.

2. In December, 1889, at other ages, especially between twenty and thirty, there was a marked increase.

3. In January, 1890, the increase was very marked and general, reaching the maximum eighty to ninety, twenty to thirty, and fifty to sixty.

Table VII.

Fatal Bronchitis reported at the Boston City Hall. Comparison between December, 1889, and January, 1890, and the average of the same months during the five previous years, with reference to age.

AGE.	Average deaths, Dec., 1884–'8.	Deaths, Dec., 1889.	Average deaths, January, 1885–'9.	Deaths, January, 1890.	Per cent. of increase.
10 and under.......	37·2	23	36·8	29	...
10 to 20	0·6	1	0·4	3	650
20 to 30	..	..	0·2	2	900
30 to 40	1	3	1·4	3	114
40 to 50	1·4	..	1·4	5	256
50 to 60	4·8	4	2·4	8	233
60 to 70	6	5	3·4	13	282
70 to 80	2·4	4	5	13	160
80 to 90	1·4	3	2·6	13	400

Table VII treats the cases reported at the City Hall as bronchitis in the same manner. The table shows that—

1. Deaths from bronchitis in December and January under ten years was less than the average.

2. That no notable increase in December, 1889, occurred at any age.

3. That in January, 1890, there was a decided increase for every decade. The totals are, however, so small and the liability of error in diagnosis is so great that the totals and percentages have no great value.

Are there, then, any conclusions which can be drawn from the data given above? Yes, conclusions can be drawn, but they do not seem to me of such a nature as to throw any really new light on influenza pneumonia. They may be stated as follows:

1. Pneumonia was unusually prevalent in Boston during the height of the influenza epidemic, about the middle third of the visitation.

2. The statistics of the Pacific Mills indicate that less than a half per cent. of those severely attacked by influenza acquired pneumonia.

3. Broncho-pneumonia was rare in the hospitals.

4. The pneumonia mortality rate was probably not increased, perhaps diminished, as compared with that of the five previous years.

5. The number of cases of pneumonia not preceded by grippe symptoms was about the same as the number of pneumonias in an average year.

6. Pneumonia followed grippe in so large a number of cases as to show some sort of connection between the affections.

7. In sixty per cent. of the cases a single lobe only was involved.

8. Two thirds of the cases terminated by lysis.

9. Pneumonia was three times as frequent in males as in females, and the mortality rate increased with each decade.

10. The most striking increase in the urban deaths from pneumonia was, on the whole, between the ages of twenty and sixty and eighty and ninety. The increase under ten was slight.

11. The gross appearances in nine cases examined after death were not specially noteworthy.

In conclusion, I wish to express my thanks to Dr. Lyman, Dr. Mason, and Dr. G. B. Shattuck, of the City Hospital, and Dr. Fitz, of the Massachusetts, for kindly according me the full use of their records, and to Dr. J. P. Clark for indefatigable zeal in collecting the facts embodied in my paper.

TRANSIENT ALIMENTARY GLYCOSURIA,

AND ITS PRACTICAL BEARINGS IN THE SELECTION OF RISKS FOR LIFE INSURANCE.*

By JOHN WARREN, M.D.

In considering the question of transient glycosuria it seems rational at first to inquire into the evidence which is now before us, upon the existence of a glycosuria in an individual who, in every other respect, can be looked upon as being a healthy subject, and not in any way suffering from or predisposed to diabetes. In our analysis we must necessarily approach the line where the appearance of sugar in the urine persists; it is no longer transient, but permanent; and we have an abnormal condition to deal with. Frerichs, in his work on Diabetes (Berlin, 1884), maintains clinically that in the healthy subject the ingestion of sugar or carbohydrates, even to an excessive degree, is not followed by the appearance of glucose in the urine. Baumert, Lehmann, and Hoppe-Seyler fail to find sugar in the urine in the normal condition; but opposed to this negative evidence is the convincing proof of physiological experiment and extensive clinical research to the effect that sugar must be regarded as present, in at least a certain varying percentage of cases, in the urine of the perfectly healthy individual. Senator admits that in a certain class the increased ingestion of sugars and carbohydrates will be followed by a transient or alimentary glycosuria, lasting only a few hours.

Worm-Müller has endeavored to place the subject upon a firmer basis than hitherto. He began by a careful examination of the urine of individuals in apparently perfect health, and in sixty of such cases he could establish the presence of sugar in the urine of eleven by the trituration (Fehling's) test. Nylander found a trace of sugar in the urine of twelve healthy persons out of one hundred examined. Worm-Müller maintains that in a certain proportion of healthy persons we find grape sugar in the urine in quantities varying from 0·05 per cent. to 0·01 per cent., the quantity of sugar being so minute that our tests fail to establish its presence in the urine of *all* healthy individuals. If, however, we take normal urine in which Fehling's test has proved negative, and subject the same to the fermentation test, we can establish the almost constant disappearance from such urine of a certain percentage of reducible substance, 0·01 per cent. to 0·025 per cent., varying with the diet. In a second paper upon the physiology of digestion of carbohydrates in diabetic subjects Worm-Müller (Archiv f. Physiologie, Bd. 35) has made a study of the presence of sugar in the urine in the normal condition. He fed healthy persons with starches, cane sugar, milk sugar, and honey, and found that, after ingestion of a considerable (50 to 250 grammes) quantity of glucose and grape sugar before breakfast, a certain quantity, though small, left the body in the form they entered it; starch, however, caused no discoverable excretion of sugar, no levulose. In the milder forms of diabetes, though we find the ingested glucose is excreted in larger amounts in some cases than in alimentary glycosuria of normal individuals, this is not the rule—nay, there is one case in which, under fitting diet, the diabetic was able to retain all ingested glucose, and none appeared in the urine. This one fact teaches that there is scarcely a distinct line to be drawn in the above respect (effects following the ingestion of glucose in the fasting state) between normal alimentary glycosuria and the milder form of protoplasmic disease (diabetes). We may say, according to Worm-Müller, that in the diabetic only a small percentage of ingested grape sugars passes into the urine, but this percentage is larger, as a rule, than in the healthy subject; therefore we may have, or rather cause, a transitory alimentary glycosuria in the diabetic. Another fact established by the experiments of Worm-Müller to his satisfaction, confirming the views of Bence Jones, Griesinger, and Boussingault, is that in the normal condition the ingestion of cane sugar (*saccharose*) does not give rise to the presence of glucose in the urine, but of saccharose, whereas in the milder forms of diabetes we have a transitory glycosuria; in other words, glucose is found. This contradicts Claude Bernard; but the latter's experiments were performed upon animals, and he affirms that even in the normal condition glucose will be found in the urine after the ingestion of cane sugar. Worm-Müller thinks that, contrary to the normal subject, the diabetic has an excessive fermentative power, by which such an amount of glucose is freed from cane sugar as to render its complete assimilation impossible. The ingestion of lactose in *diabetics* causes the appearance in the urine of glucose, a transitory alimentary glycosuria, this being *characteristic of diabetics*, while in the *normal* condition we have only a transitory alimentary *lactosuria; lactose*, not *glucose*, being found in the urine. The diabetic, contrary to the healthy subject, can not assimilate or retain the glucose formed from lactose in the body. This change is surprising, for we know of no ferment which exists in the normal condition capable of splitting lactose into lactose and glucose, as it is done in the diabetic suffering from the very mild form of the disease. Therefore, if we want to convince ourselves (Worm-Müller) of the presence of the disease *diabetes mellitus* in a subject whose urine contains only a trace of sugar, it is not proper to give glucose, honey, etc., to cause an excretion in the urine, for we see this may not only occur in the normal individual, but in the diabetics who have been strictly dieted the sugar will in cases *fail* to appear (Kulz). With starch the experiments of Worm-Müller stand somewhat in direct contrast to those of Claude Bernard (Leçons sur le diabète); here Bernard found that the normal subject will show sugar in his urine after the ingestion of starch in the empty stomach. This Worm-Müller can not corroborate, and seeks here to give us the turning-point between normal transitory alimentary glycosuria and the milder forms of diabetes; in the latter the ingestion of starches in the fasting state gives a constant excretion of sugar in the urine, while in the normal condition an alimentary transitory glycosuria under these conditions is at least an *exception*. As we are only concerned with practical tests, it is foreign to go deeply into the physiological aspects of this subject; but the experiments of Worm-Müller tend to prove that this failure of diabetics to use up the glucose formed from carbohydrates is striking as compared to the same power in the normal subject. To repeat, it seems that from the above we can truly believe that the simple clinical discovery of sugar in the urine of the healthy subject is physiological, and under the control of the normal physiological processes in the economy. The question raised by Ebstein—whether the alimentary transient glycosuria may not be a manifestation of a predisposition in the individual to contract diabetes mellitus in the presence of an exciting cause—is a note of alarm to which at the present day we can give no positive answer. Data do not as yet justify any such conclusion, and until this fact is proved—namely, the increased predisposition of the subject of alimentary transient glycosuria to contract diabetes—we must give full credence to the existence of a perfectly normal glycosuria, foreign in its pathology to diabetes mellitus.

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* Read before the Society of the Alumni of Bellevue Hospital, April 9, 1890.

If we now turn to the practical part of our subject—the selection of risks for life insurance—our task is a difficult one, but at the same time entirely consistent with the above-expressed physiological views. I have selected from my personal examination of 3,521 life-assurance risks fifty-seven cases in which the urine showed traces of sugar to a greater or less degree, in ten of which, as I will detail later, the sugar disappeared and was not found after repeated examinations; in some of the remaining cases the sugar persisted; the others not having returned for re-examination, I am unable to state whether the sugar was permanent or transient, they being made in most every case of the urine passed during digestion, and without treatment as to diet. The applicants were mostly business men between the ages of twenty-eight and forty-five years, and have all been granted insurance in the society which I represent; and are, as far as I can learn at the present time, in good health. They may, I think, in every way be classed as cases of transitory glycosuria.

CASE I.

February 24, 1888, specific gravity 1·025	Sugar.
April 23, 1888, specific gravity normal	Trace.
March 7, 1889, specific gravity 1·023	No sugar.
April 2, 1889	No sugar.
July 25, 1889	No sugar.

Case II.

March 3, 1890, specific gravity 1·020........Sugar.
March 4, 1890..................................Trace.
March 20, 1890, specific gravity 1·016.......No sugar.

Case III.

March 19, 1889, specific gravity 1·015.......Sugar.
Two subsequent examinations..............Sugar.
August 27, 1889, specific gravity 1·020......No sugar.

Applicant at the time of the first examination had recently suffered from a large lumbar abscess; at the time of the last examination had gained nine pounds, and was in first-class condition.

Case IV.

July 2, 1886.............................Sugar.
August 8, 1886..........................No sugar.

Case V.

March 12, 1887, specific gravity 1·032.......Sugar.
July 12, 1887, specific gravity 1·025.........No sugar.
August 31, 1887........................No sugar.

Was overworked at the time of the first examination, but had increased in weight and improved in general appearance when last examined.

Case VI.

March 24, 1890, specific gravity 1·020.......Sugar.
March 25, 1890, specific gravity 1·020.......Sugar.
April 1, 1890, specific gravity 1·020.........No sugar.

Case VII.

January 27, 1890, specific gravity 1·025.....Sugar.
February 3, 1890.................... .....Trace.
March 25, 1890, specific gravity 1·020.......No sugar.
March 27, 1890, specific gravity 1·020.......No sugar.

Case VIII.

September 10, 1889, specific gravity 1·020...Sugar.
March 1, 1890, specific gravity normal..... No sugar.
March 22, 1890, specific gravity normal.....No sugar.

Case IX.

October 20, 1886, specific gravity normal....Sugar.
Subsequent examinations..................No sugar.

Case X.

June 19, 1888, specific gravity normal......Sugar.
Subsequent examinations..................No sugar.

We may safely assume that "a trace of sugar in urine of a normal specific gravity from a seemingly healthy subject, and demonstrated, by an appropriately timed series of testings, to be temporarily present only, and that too during the high tide of digestion of a meal including starch and sugar, is not to be regarded." In the light of the above it is easy to appreciate the importance of this subject of transient glycosuria, not only to the examiner and assurance company, but the applicant also. The said subject may be first-class in every respect, with the exception of a certain amount of sugar in his urine, varying from a trace to a full reduction, the urine being of a normal specific gravity, and there being no symptoms of the disease suspected (diabetes). It is for us to decide, within a limited time usually, the nature of the presence of the sugar in the urine. On the one hand the applicant is rejected, and, aside from the anxiety caused him, is often prevented, by our opinion, from obtaining insurance elsewhere; and, on the other, a favorable decision may involve the company to the extent of large amounts by assuming a risk with a disease which must terminate fatally. In the apparently healthy individual the specific gravity is an important guide, for while in diabetes in rare instances it may fall to 1·010 (Tyson), in the majority of cases it ranges from 1·028 to 1·040. Where it is 1·025 or under, unless reduced by frequent draughts of water, beer, etc., it has been my experience that repeated examinations will prove the presence of sugar to have been accidental and transient in most cases. When the specific gravity is over 1·028, even though no sugar is found upon the first examination, I require a second specimen. That passed in the morning will give a much more fair average specific gravity, as it is not practical to obtain a specimen from the whole amount passed during the twenty-four hours. Where the specific gravity is within normal limits and the applicant gives none of the symptoms generally looked for in diabetes, should we find a full reduction of glucose during the digestion of carbohydrates (sugars), and, after repeated examinations varying in every case, the sugar disappears from the urine, without restricting the diet or medical treatment, I consider the case one of transient glycosuria, and see no reason why such cases should not be safe risks for life assurance.

I shall not speak of the many tests used for the detection of sugar in the urine, but simply say that, in my opinion, the most practical and thoroughly reliable one for glucose is Fehling's copper test in fresh solution. In those cases where there is a constant doubtful trace of sugar, with normal specific gravity, I use, where extra caution is required, the fermentation saccharometer of Max Einhorn, by means of which the percentage of sugar may be determined. If the above-mentioned tests are properly applied they will answer every practical purpose.

The African Kola Nut.—"At a meeting of the Balloon Society, held at St. James's Hall on the 18th ult., Mr. T. Christy read a paper on the uses of the kola nut. It is well known this fruit has long been in use among the natives of Western Africa when on long and tedious marches, as it is said to possess great sustaining and stimulating powers. Travelers declare that not only does this nut re-enforce the system when it is debilitated by fatigue, but that it also quiets temporarily the pangs of hunger and thirst; and, in fact, the natives frequently carry powdered kola in lieu of provisions. Analysis has shown that it contains 2·5 per cent. of caffeine, with very little tannin (about 1·5 per cent.), being much better in this respect, therefore, than tea, which usually contains at most 2·5 per cent. of the alkaloid, with 16 or 17 per cent. of tannin. At about the same time a communication from Dr. Heckel, of Marseilles, was read at the Paris Academy of Medicine on the same subject, in which the writer suggests that powdered kola nut should be used as part of the soldiers' rations as a preventive of fatigue on long marches. He mentions a test made during the manœuvres of the Sixth Army Corps, among other instances, in support of his statement. From these facts there seems every chance of kola becoming in course of time a powerful rival of tea and coffee, as well as a substitute for so-called 'pick-me-ups.'"—*Lancet.*

Diphtherial Nephritis.—"Dr. van Herwerden has found that a broth culture of Klebs-Löffler's bacilli obtained from diphtheria patients injected into the veins of the ears or under the skin of the back in rabbits produced albuminuria in from twenty-four to forty-five hours, and subsequently scantiness of urine and nephritis. The morbid changes found in the kidneys agreed both macroscopically and microscopically with those found in the kidneys of persons who have died of diphtheritic nephritis."—*Lancet.*

LOSS OF AN EYE BY WOODCOCK SHOT;

ENUCLEATION FOR SYMPATHETIC IRRITATION; THE OTHER EYE PUNCTURED BY A THORN SEVENTEEN YEARS LATER.

BY DAVID WEBSTER, M. D.,
PROFESSOR OF OPHTHALMOLOGY IN THE NEW YORK POLYCLINIC;
SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, NEW YORK.

MR. J. J. H., aged thirty, was out shooting with a friend on August 11, 1873. He received a charge of No. 8 woodcock shot square in the face at a distance of three or four rods. One shot passed through each ear, several lodged in the forehead, one in the right lower lid, and one at the right external canthus. One shot entered the *left eye*, passing through the cornea, iris, and crystalline lens, and lodging somewhere either within or posterior to the eyeball. The shot seemed to have struck him with great force, as some of them were deeply imbedded in the skin of the forehead.

When Mr. H. was seen by the late Dr. C. R. Agnew and myself, five days after the accident (August 16th), a traumatic cataract was already developed in the left eye, so that the parts of the eye posterior to the lens could not be examined. The eye retained perception of light, it was slightly injected, and the pupil dilated well to atropine. The right eye was already beginning to be sensitive to light. Atropine and bandaging were advised, and careful watching for sympathetic irritation of the fellow-eye.

The patient returned on September 11th, some thirty-one days after the foreign body entered the eye. The injured eye had no longer any perception of light. The wound-tract was marked by a bloody, lymphoid material. The eye was red and painful on pressure. The fellow-eye was watery and sensitive to light, but retained perfect sight.

We feared that sympathetic inflammation would set in, and, with the patient's consent, he was placed under ether by myself, and the eye was enucleated by Dr. Agnew. He made a rapid recovery. On the very next day all the symptoms of sympathetic irritation of the right eye had disappeared.

As my record of the case fails to state whether the shot was found or not, I wrote the patient, asking him to inform me whether he knew what had become of the shot, or whether it had lodged in the eye or the orbit. I received a reply, dated May 9, 1890, from which I extract the following:

"DEAR SIR: As near as I can remember, the shot penetrated the white of the eye first and then forced itself into the sight, where I suppose it lodged and was removed with the eye, but as for stating definitely whether the shot lodged in the eye or had force enough to go through into the orbit, I find it impossible. Perhaps, as you are interested in my case, I might state that, scarcely two weeks ago, I met with an accident which may develop into a serious matter, for I had the misfortune of sticking a small thorn into the other remaining well eye."

Anisodus Luridus.—Dr. Siebert reports some interesting results of an investigation of the *Anisodus luridus*, a Himalayan solanaceous plant, which seem to indicate that the degree of development of the plant may have an important relation to the quantity and nature of the alkaloids occurring in it (Archiv der Pharmacie, Feb. 20th, p. 145). From flowering plants he reports that he obtained, by fractional precipitation of an acidulated liquid with gold chloride, a "not inconsiderable quantity of hyoscyamine," but no atropine or hyoscine, while from plants collected when the seed had ripened only a very small quantity of atropine could be isolated under the same conditions and no hyoscyamine. The failure to detect hyoscine is thought to be possibly due to insufficiency of the material used.—*Pharm. Journ. and Trans.; Therap. Gazette.*

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THE POISONOUS ACTION OF ABSINTHE.

IN connection with the articles on alcoholism that we publish in this issue, it seems proper to call attention to certain recent investigations of the poisonous action of absinthe that have been made by some of our French colleagues—notably by Déjérine, whose observations are contained in a *thèse d'agrégation* entitled L'Herédité des affections nerveuses, published in 1886; by Combemalle (Archives de neurologie, 1888, p. 484); and by Cadéac, Meunier, and Laborde (Gazette hebdomadaire de médecine et de chirurgie, Oct. 4, 1889, p. 637).

M. Déjérine maintains that all the poisons that affect the intellect are very similar in their action and produce forms of insanity that are "approximately identical"; and M. Combemalle declares that alcoholism in its broadest sense may result from the use of essences as well as from that of alcohol itself. M. Cadéac and M. Meunier, who presented the results of their experiments before the *Académie de médecine*, came to the conclusion that most of the evil attributed to indulgence in absinthe was really due to the essence of anise.

This was in direct contradiction of what had previously been accepted, especially since Laborde and Magnan's investigations. The importance of the subject will appear more clearly if we recall Combemalle's experiments. A bitch was dosed with ordinary absinthe at the daily rate of from half a teaspoonful to a teaspoonful for each kilogramme that she weighed. After a time she gave birth to a litter of six pups. One of them was born dead, in another only one testicle had descended, and all of them were much less intelligent than the dam. One of the female pups, having grown up, bore a litter of three pups, without having been alcoholized herself. One of them died on the first day, the second died of athrepsia within a few days, and the third had various defects of development. In another instance a male dog was poisoned with absinthe given at the daily rate of between two and three teaspoonfuls for each kilogramme of his weight. He was then allowed to line a bitch, and she brought forth a litter of twelve pups. Two of them were born dead; two died of pneumonia; one was suffocated accidentally; one had thread-worms; one had verminous enteritis with general epileptoid convulsions; one had numerous intestinal worms, also meningeal congestion, with coagula in the superior longitudinal sinus, and a fatty liver; one had so many gastric and intestinal entozoa that they blocked the alimentary canal completely, also congestion of the left cerebral hemisphere; and one died of peritonitis, probably tuberculous, and its left hemisphere weighed half a drachm less than the right one—a condition that was observed also in two of the others, so that it is asked, "Is not alcohol the genius of degenerative processes?" In other cases Combemalle found steatosis of all the glands, atheromatous patches in the arteries, pachymeningitis, and atrophy of the testicles and of the ovaries. Magnan observed facial asymmetry, prognathism, arrested development of the extremities, club-foot, lesions of the genito-urinary organs, precocious sterility, and various mental and moral defects.

Cadéac and Meunier's communication led to the appointment of a commission consisting of M. Ollivier and M. Laborde to investigate the matter. As the result of this investigation, M. Laborde reported that absinthe itself was the real injurious agent, and that essence of anise, even in large doses, did not produce the same results; and he implied that Cadéac and Meunier had used adulterated absinthe in their experiments. Absinthe was again declared to be among the most injurious of alcoholic preparations. Coinciding as they do with those drawn from common observation, M. Laborde's conclusions are not likely to be upset by anything short of the most convincing experiments.

THE PROPOSED DUTY ON SUGAR OF MILK AND COD-LIVER OIL.

This journal has nothing to do with political questions pure and simple, but concerning points where they touch the interests of physicians and their patients it is its proper function to speak. Elsewhere in this issue the reader will find a pointed letter, by Dr. Cyrus Edson, on the provisions of the McKinley tariff bill relating to sugar of milk and cod-liver oil—a subject on which the views of some of our commercial contemporaries have before been quoted by us. We fancy that it would puzzle Mr. McKinley himself to justify the proposed duty on sugar of milk, unless, indeed, on his original and peculiar theory that, inasmuch as we already have a superb internal commerce, our foreign commerce is a luxury that we can do without. As Dr. Edson says, sugar of milk is not produced in this country, and perhaps could not be produced here in quantity and quality sufficient to supply the demand, although that demand is restricted almost wholly to its use as an ingredient of medicinal and quasi-medicinal preparations. The proposed duty of ten cents a pound certainly is not needed by the Government "for revenue only," and it does not seem likely to benefit anybody, if we except certain persons who, as Dr. Edson intimates, "*propose* to manufacture milk sugar." If this petty relief is needed for capital lying idle, why do the possessors of the latter keep it unemployed while aliens are buying up American breweries, American flour mills, and various other agencies of American industries?

As regards cod-liver oil, the case is different. We know of no reason why it should be excepted from the operation of any general tariff measure that may be decided upon. It is quite true that American makers of this product have nothing to fear from foreign competition, and it should be set down as highly creditable to several of them that they have joined in the protest against the imposition of such a duty on the article as is proposed in the McKinley bill. We must dissent most decidedly from one statement made by Dr. Edson—that "the small quantity of oil produced in this country is of inferior quality." So long as Norwegian fish-hooks are found in cod taken off the New England coast we can not admit that the American cod is an inferior fish, or that the question "How's your liver?" need be parried by it; and we have yet to learn that the processes employed by our native makers of cod-liver oil are in any important respect less satisfactory than those resorted to in Europe. Nevertheless, in view of the fact that our production of the oil is limited, we should be glad to see it added to the free list.

MINOR PARAGRAPHS.

NITROGLYCERIN POISONING.

Dr. Kolipinski, of Washington, has reported in the Medical News a case of overdosage with nitroglycerin, which was not fatal, although decidedly threatening of that result for a time. A young married woman, in ill-health from cardiac asthma, was under treatment with drop doses of a one-per-cent. solution of this drug, when early one morning she took by mistake two teaspoonfuls of the solution. She soon remarked that what she had taken "affected her head like brandy." The physician was sent for, and on his arrival found the patient semi-conscious, with her extremities cold and her face pallid; the pulse was strong and regular, 80 to the minute; asthmatic breathing was still present; there was distress in the gastric region, and she subsequently stated that she felt a great desire to vomit. An emetic of mustard in coffee was given, and this was soon followed by vomiting; a hot mustard foot-bath was ordered and a large flaxseed poultice to envelop her chest. Under these directions the dangerous symptoms gradually improved, and with them the dyspnœa also subsided. The patient subsequently informed her physician that she had been only partially cognizant of what took place after the accidental overdose, but she was able to remember the facts of difficulty of breathing and of stomach distress.

HOW DIPHTHERIA IS SPREAD BY CORPSES.

Dr. Baker, the secretary of the Michigan State Board of Health, has issued a circular stating that in March two corpses, those of a woman and child of the same family, dead of throat disease, certified by the attending physician not to be "dangerous to the public health," were conveyed from Montmorency County to Lapeer County, Michigan, where in just a week from the day the coffins were opened and the remains viewed a person who was thus exposed came down with diphtheria. Many others, says Dr. Baker, would probably have been exposed except for the action of the local health officer, Dr. C. A. Wisner, who, suspecting that the cause of the deaths was diphtheria, warned the neighbors and forbade the opening of the coffins at the funeral. He promptly isolated the first person that was attacked, and no epidemic resulted. This, Dr. Baker adds, is quite different from the result of a similar occurrence at Zanesville, Ohio, last spring, where many deaths resulted from exposure to a corpse brought from Chicago. It shows the importance of notice to the local health officer of the arrival of a corpse, so that he may take every precaution that may be necessary.

HIGH INFANT MORTALITY IN GERMANY.

Dr. Rahts, of the Imperial Office of Health, at Berlin, says the Lancet, addressed the Society of Public Hygiene on April

28th on the causes of the high infant mortality in Germany. After showing that this death-rate was higher than in any other civilized country, he ascribed it to three prominent causes—to unsuitable milk for the food of the very young, to the large amount of illegitimacy, and to the employment of mothers in factories. In regard to the last-named cause, he held that there was a culpable neglect on the part of both governmental and municipal authorities in failing to legislate and execute regulations respecting the factory employments of women.

THE ANAL CANAL.

In the Journal for May 31st we published a report of the proceedings of a meeting of the Section in Pathology of the Royal Academy of Medicine in Ireland at which one of the speakers alluded to "Professor Symington's theory"—that the anus was a canal, and not a mere opening—as explaining to him many things that he had before been unable to account for. The wonder is that anybody with even a moderate clinical experience should speak of this well-established fact as a theory; certainly no gynæcologist would think of mentioning it by that name.

THE DOUGLAS RELIEF FUND.

It is to be hoped that the effort to raise a fund for the aid of Dr. Douglas, on which a letter from Dr. T. Gaillard Thomas is published in this issue of the Journal, will meet with prompt and widespread co-operation among the profession. We have not been made fully acquainted with the circumstances that have led to the effort, but our readers need not be told that Dr. Thomas's support of it is sufficient guarantee of its deserving nature.

THE BATHING FACILITIES AT SHARON SPRINGS.

Last week we mentioned the new bathing establishment at Richfield Springs, and commended the disposition shown by the proprietor to render the waters of Richfield "serviceable to the utmost from the medical point of view." We take equal pleasure in inserting in this issue Dr. Williams's letter giving an account of the bathing facilities at Sharon Springs, and in according praise to the Messrs. Gardner for the enterprise they have shown in the matter.

THE AMERICAN ANDROLOGICAL AND SYPHILOGRAPHICAL ASSOCIATION.

This or something like it is now the rather overpowering name of what was once known as the American Association of Genito-urinary Surgeons. Perhaps a conventionality has thus been started which will make a distinction between "andrology" and anthropology, but we prefer to believe that the association will come to its senses again eventually. At the Altoona meeting, Dr. Fessenden N. Otis, of New York, was made president; Dr. A. T. Cabot, of Boston, vice-president; Dr. J. A. Fordyce, of New York, secretary; and Dr. J. P. Bryson, of St. Louis, and Dr. R. W. Taylor, of New York, members of the council.

THE NEW STATEN ISLAND INFIRMARY.

The Samuel R. Smith Infirmary at Castleton, Staten Island, has recently taken possession of its new building, a fine three-story brick structure surrounded by handsome grounds. The opening exercises, which took place on June 5th, were largely attended by the public-spirited people of the island. Addresses were delivered by Dr. Theodore Walser, Mr. George William Curtis, Mr. Erastus Wiman, and others.

THE MEDICAL DEPARTMENT OF COLUMBIA COLLEGE.

For a number of years this has been the supplementary title of the College of Physicians and Surgeons, but the connection of the school with Columbia has not been of the most intimate sort. This year, however, the Columbia commencement exercises, which were held on Wednesday evening, the 11th inst., included those of the College of Physicians and Surgeons, and the members of the faculties of the various schools of the university sat side by side in cap and gown. We may hope that this augurs a closer connection between the medical school and the university than has hitherto been apparent.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 10, 1890:

DISEASES.	Week ending June 3.		Week ending June 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	2	13	1
Scarlet fever	47	8	67	11
Cerebro-spinal meningitis	5	3	0	0
Measles	427	30	357	35
Diphtheria	83	33	81	22
Varicella	5	0	6	0

The Death of Dr. Friedrich Kuechenmeister is reported as having taken place in Dresden on the 13th of May.

Change of Address.—Dr. George F. Carey, to No. 142 East Nineteenth Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 1 to June 7, 1890:*

Dietz, William D., Captain and Assistant Surgeon. Granted leave of absence for one month. Par. 4, S. O. 131, A. G. O., June 5, 1890, Washington, D. C.

Dietz, William D., Captain and Assistant Surgeon. By direction of the Secretary of War, having completed at New York city the duties assigned him in Special Orders 29, April 30, 1890, Division of the Pacific, will return to his station in that division. Par. 5, S. O. 129, A. G. O., June 3, 1890, Washington, D. C.

McElderry, Henry, Major and Surgeon. By direction of the Acting Secretary of War, leave of absence for seven days, to take effect upon the final adjournment of the Army Medical Examining Board, is granted. Par. 7, S. O. 127, A. G. O., May 31, 1890, Washington, D. C.

Cleary, Peter J. A., Major and Surgeon. By direction of the Secretary of War, leave of absence for six months, on surgeon's certificate of disability, is granted. Par. 4, S. O. 127, A. G. O., May 31, 1890, Washington, D. C.

Willcox, Charles, First Lieutenant and Assistant Surgeon. With the approval of the Secretary of War, leave of absence for ten days is granted. Par. 16, S. O. 126, A. G. O., May 29, 1890, Washington, D. C.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 7, 1890:*

Kite, I. W., Passed Assistant Surgeon. Detached from the Naval Hospital at Pensacola and ordered to the hospital at New York.

Craig, Thomas C., Passed Assistant Surgeon. Detached from the Naval Hospital at New York and ordered to the U. S. Steamer Vesuvius.

Anderson, Frank, Passed Assistant Surgeon. Granted leave of absence for the month of June.

Ogden, F. N., Assistant Surgeon. Ordered for examination preliminary to promotion.

White, S. S., Assistant Surgeon. Ordered for examination preliminary to promotion.

Beyer, Henry G., Passed Assistant Surgeon. Ordered on duty on the U. S. Steamer Yantic.

Simons, Manly H., Surgeon. Detached from Widows Island Hospital and awaiting orders.

Hawke, J. A., Surgeon. Ordered to Widows Island Hospital, and attending officers of Naval and Marine Corps at Portsmouth, N. H.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ended May 31, 1890:*

Purviance, George, Surgeon. Detailed as Chairman, Board of Examiners. May 31, 1890.

Long, W. H., Surgeon. Granted leave of absence for three days. May 19, 1890.

Godfrey, John, Surgeon. Detailed as member of Board of Examiners. May 31, 1890.

Irwin, Fairfax, Surgeon. Detailed as Recorder, Board of Examiners. May 31, 1890.

Carter, H. R., Passed Assistant Surgeon. Ordered to examination for promotion. May 31, 1890.

Banks, C. E., Passed Assistant Surgeon. To proceed to Boston, Mass. on special duty. May 12, 1890.

Peckham, C. T., Passed Assistant Surgeon. Granted leave of absence for eight days. May 14, 1890.

Ames, R. P. M., Passed Assistant Surgeon. To proceed to Memphis, Tenn., for temporary duty. May 14, 1890. To proceed to Gulf Quarantine Station for temporary duty. May 31, 1890.

Perry, T. B., Assistant Surgeon. Ordered to examination for promotion. May 31, 1890.

Condict, A. W., Assistant Surgeon. Granted leave of absence for twenty-two days. May 24, 1890.

Society Meetings for the Coming Week:

Monday, *June 16th:* New Hampshire Medical Society (first day—Concord); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *June 17th:* Colorado State Medical Society (first day—Denver); New Hampshire Medical Society (second day); Medical Societies of the Counties of Kings, Washington (annual), and Westchester (annual), N. Y.; Ogdensburgh Medical Association; Baltimore Academy of Medicine.

Wednesday, *June 18th:* Colorado State Medical Society (second day); New Hampshire Medical Society (third day); Medico-legal Society; Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Allegany (annual) and Tompkins (annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *June 19th:* Minnesota State Medical Society (first day—St. Paul); Colorado State Medical Society (third day); Metropolitan Medical Society (private); New Bedford, Mass., Society for Medical Improvement (private).

Friday, *June 20th:* Minnesota State Medical Society (second day); Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *June 21st:* Clinical Society of the New York Post-graduate Medical School and Hospital.

OBITUARY NOTES.

Charles Horton Wilkin, M. D., died at his residence, in New York, on Friday, the 6th inst., at the age of thirty-four years. Dr. Wilkin was one of the most promising of the young surgeons of New York, and was much liked for his personal qualities. We are informed that his death was due to septicæmia occurring as a sequel of disease of the vermiform appendix.

John A. Bosch, M. D., died in St. Luke's Hospital, New York, on Friday, the 6th inst., of pulmonary and laryngeal tubercular disease. The deceased was a graduate of the College of Physicians and Surgeons, of the class of 1885, and had served as a member of the house staff of Charity Hospital. After he had begun practice in New York ill health compelled him to leave, and he went to Poultney, Vermont, and subsequently to Porto Rico. He had made many friends in the profession.

Edward J. Mealia, M. D., died at Brooklyn on the 6th inst., in his thirty-first year. His death is believed to be another instance of the fatally undermining effects of epidemic influenza. He was a graduate of the College of Physicians and Surgeons, of the class of 1883. He was a highly trained practitioner, and was apparently destined to achieve an exceptional success.

Letters to the Editor.

THE PROPOSED DUTIES ON DRUGS.

54 West Ninth Street, *May 28, 1890.*

To the Editor of the New York Medical Journal:

Sir: There are some clauses in the McKinley tariff bill which I think are of interest to the medical profession of this country and which ought to be brought to their attention. There is one in particular to which I wish to refer, namely, the proposed duty of ten cents per pound upon milk sugar.

Sugar of milk is employed almost exclusively in the manufacture of medicinal preparations, especially in the highly convenient and economical medicinal preparations known as triturates, tablets, etc. Beyond this use as a diluent or vehicle for the exhibition of active medicinal agents milk sugar is principally employed in the preparation of foods for the sick and for infants. There can be no doubt whatever that in this latter use, in the preparation of foods for infants, milk sugar is of the utmost importance and deserves to be used more and more to the exclusion of artificial sugars. Practically, the entire amount of milk sugar consumed in past years has been that imported from Europe, and at the present time there is little or no American milk sugar found in our markets.

This duty at once increases the cost of milk sugar about seventy-five per cent. to every consumer. Milk sugar is already ncreasing in cost under the influence of this proposed measure in the McKinley bill. This increased cost is not asked for, as I understand it, by any druggist or apothecary in the United States. On the contrary, a protest has been universally signed against it.

This tax, then, is levied at the direct procurement of a few individuals who *propose* to manufacture milk sugar. It certainly is an open question as to whether they will or will not be able to supply the demand for milk sugar.

Whatever may be the amount of milk sugar produced in this country in the future, it is certain that the effect of this duty will be to immediately increase the cost to every consumer, those interested in securing this tax hoping at some future time by this means to secure a profit to themselves. In effect, this means that the people in this country are to be made to pay a tribute in the interest of two or three would-be manufacturers of milk sugar.

Outside of these uses for which milk sugar is already employed, there is scarcely any possibility that any output can be found for it. It can never be made to take the place of cane sugar for the many purposes for which this sugar is employed. It lacks completely the sweetness and the solubility characteristic of cane sugar. Therefore, whatever stimulus may be given to its production by such legislation, it can not be of any service in creating the industry of manufacturing milk sugar upon a very large scale. It is in fact a purely medicinal substance.

I think the medical profession should protest against an act of Congress by which the cost of so important an article in medicine as milk sugar would be so greatly and unnecessarily enhanced.

My attention has also been called to protests in the public press against the increased tax on cod-liver oil.

Similar reasons exist against increased tax upon this medicinal article in extensive use, especially because the small quantity of oil produced in this country is of inferior quality. Increased cost of these articles means decreased purity. The influence of *pure*, *cheap* remedial agents upon the well-being of the community is so direct that I can not refrain from raising my voice against the proposed measure.

Cyrus Edson, M. D.,
President of the New York Board of Pharmacy.

SALOL IN LYMPHANGEITIS.

Towanda, Ill., *June 2, 1890.*

To the Editor of the New York Medical Journal:

Sir: As I have seen nothing in print in regard to a special use of a comparatively new medicinal preparation—salol—which I apprehend has before it a wide field of usefulness, I desire to report briefly through your columns my experience with it in a certain case—bearing in mind that "one swallow doesn't make a summer." I have been using salol for several years with marked benefit in acute rheumatism, dysentery, entero-colitis, and diarrhœa.

A year ago I had a case of acute lymphangeitis occurring in a man about fifty-four years of age. Some organic poison was introduced into the system through a slight break of the skin on the back of the left thumb, which resulted in acute inflammation of the entire external lymphatic system of the upper left quarter of the body. Fever was high and prostration great, but under the influence of antipyretics, laxatives, and salol the inflammation was controlled, and in the course of ten days the temperature was normal, but the affected parts were left thickened, hard, and discolored. Salol was only given during the first few days, until the trouble began to subside, as I was giving it only because the patient had been having rheumatism shortly prior to this lymphatic inflammation. After two or three days of convalescence rigors occurred and fever, and the patient returned to bed, where he was confined continuously for fourteen weeks with abscesses involving all of the upper left quarter of the body, except the arm below the shoulder. They involved the chest and back and from back of the ear to the hip. Two of them were as large as dinner-plates, and they ranged in size from that to small pockets, and for many weeks, I am satisfied, they discharged fully a pint and a half of apparently laudable pus daily. Occasional rigors, high fever, and drenching sweats, with great prostration and emaciation, marked the progress of the case. Forced nourishment by beef-juice, milk, and eggs, with alcohol and the old-time remedies, iron and quinine—together with syringing out the abscess cavities twice a day with a solution of hydronaphthol—constituted the treatment for about eleven weeks without any apparent improvement in the suppurative condition, and with the result that the patient was generally considered to have hopeless pyæmia. In desperation I concluded to experiment with salol as an antidote for blood-poisoning, and, stopping all other drugs, I gave six fifteen-grain doses each day for a week. In thirty-six hours after beginning it there was a very noticeable diminution in the amount of pus, with less fever and sweating. Improvement was regular and constant during the week, and by the end of it the discharge of pus was almost stopped and the general outlook for the patient was greatly improved. At this juncture I withdrew the salol entirely and returned to the iron and quinine for a week, with the result of suppuration increasing regularly with higher temperature and more sweating. At the end of a week I again substituted the salol in free doses, and in twenty-four hours the suppuration had almost ceased and improvement was rapid and regular to complete recovery. To my mind it appeared demonstrated that salol controlled suppuration, of the character described at least. Salol was continued in decreasing doses for nearly two months. To-day the patient is apparently as well as ever, with the exception of impaired motion of the left shoulder joint from abscess of joint resulting in contractions and adhesions. Since the foregoing case I have used salol in one other case of lymphangeitis in an early stage, and the attack was apparently aborted; also in several cases of erysipelas where the disease was more promptly controlled than by any other plan of treatment that I am aware of. I always give the dry powder in the mouth and wash it down with water, and never gave it where it caused any disagreeable symptoms or was not well tolerated by the stomach, and have given over half an ounce a day to an adult. From my conversation with professional brethren who have not been so well satisfied with their use of salol as I have been, I attribute their failure in many instances to using it too sparingly.

W. H. Reedy, M. D.

THE WATERS OF SHARON SPRINGS.

Sharon Springs, N. Y., *June 9, 1890.*

To the Editor of the New York Medical Journal:

Sir: I have been for several years and I am still a subscriber to your Journal. In the editorial columns of the issue of June 7, 1890, I observe an article calling attention to the bath-houses of Richfield Springs and to the alleged fact that "of late years there has been a gratifying disposition to manage the sulphurous waters (there) in a way to make them serviceable," etc. I would respectfully direct your notice to page 141 of a work entitled Nasal Catarrh and Allied Diseases (second edition), published in New York, 1885, where the eminent author writes: "During the past summer (1884) I am glad to state that, owing to the knowledge and enterprise shown by John H. Gardner & Sons, at Sharon Springs, N. Y., the various modes of *inhalation* in use at the Sulphur Springs in France and elsewhere in Europe have been introduced in this country. Already the Messrs. Gardner have made a beginning in their bath-houses of the methods most approved by distinguished authorities abroad," etc. To this disinterested testimony I will add that a new bath-house for these scientific applications was opened here in June, 1888. Thus you will perceive that at Sharon Springs, N. Y., there has been not only a "disposition to manage the sulphurous waters in a way to make them serviceable," but a fruition, as we have actually had in operation here for six years those identical methods which, as a fact, are not yet (at this writing) ready in Otsego County, but, nevertheless, have there in advance a kindly commendation in your editorial columns, while the same methods here have passed unnoticed by you. I am confident that no injustice has been intended by this, and hence I place the facts before you. Honor to whom honor is due. Sharon Springs, N. Y., is the pioneer in this movement, having used the European methods for six years, which are now about to be introduced into a neighboring watering place. Is not imitation the sincerest form of flattery? I think so, and I claim that no better evidence of our success is required than the adoption elsewhere of the methods which have ceased to be an experiment here. Trusting that, as a mat-

ter of equity, you will find space in your columns for this communication,
GEORGE A. WILLIAMS, M. D.

NITROGLYCERIN IN GAS POISONING.

LANCASTER, OHIO, *May 22, 1890.*

To the Editor of the New York Medical Journal:

SIR: Some time ago I noticed in your valuable Journal an article from a Zanesville, Ohio, physician, relative to his experience with nitroglycerin in gas asphyxiation. I have recently had experience in a similar case, in which I used nitroglycerin with most gratifying results. A plumber, forty years old, was tapping a gas main in a close cellar, when the pipe suddenly broke and he was overcome before he could get out. When I saw him he was cyanotic, respiration spasmodic and very shallow. There was an entire absence of pulse at the wrist, his extremities were cold, and a state of profound unconsciousness existed. Nitroglycerin was administered in one one-hundredth grain doses, at intervals of ten minutes, hypodermically. In thirty seconds from the time of the first injection the pulse was noticeable at the wrist, and grew steadily stronger. At the end of fifty minutes the patient was conscious and said he felt right well, with the exception of a numbness in the extremities. From this time on he grew rapidly better, and at the end of three hours was able to walk home. Artificial respiration was not used at all, but it was observed that, as the volume of the pulse increased, the embarrassment of respiration was proportionately relieved. From the experience of our friend in Zanesville and the case just related, I am inclined to think that the prime indication in this class of cases is to establish the equilibrium of the heart and let respiration take care of itself.

C. W. GOSS, M. D.

CANNABIS INDICA.

COLUMBUS, IND., *June 9, 1890.*

To the Editor of the New York Medical Journal:

SIR: In looking over the Journal this morning the article on The Therapeutic Uses and Toxic Effects of Cannabis Indica attracted my attention. I am ready to agree with its teaching with one exception, and that is as to the initial dose.

About five years ago I gave a patient ten drops of the tincture and produced alarming symptoms: violent delirium followed by a cataleptic state lasting six hours.

This patient was suffering at the time from uterine hæmorrhage, and it was for this trouble that the remedy was given.

About one month ago I commenced the treatment of migraine in this same patient. I gave her one sixth of a grain of Herring's extract of *Cannabis indica* and one sixtieth of a grain of arsenious acid three times a day. After taking the remedy two days she began having attacks of vertigo, which increased in severity. I abandoned the treatment, to resume it again in five days, and the same train of symptoms recurred, this time attended with numbness in the extremities. The patient, without knowing what she was taking, told me that she "felt like she did five years ago when treated for hæmorrhage."

There is nothing like hysteria in this patient. She is the mother of six children, the youngest five years old. She is the wife of a physician, and is quite an intelligent lady. I secured a supply of Wyeth's tablet triturates of *Cannabis indica*, gr. $\frac{1}{10}$. A week ago I began giving two tablets three times a day and produced dizziness on the second day. I continued the medicine, giving *one* tablet three times a day, and this produces a feeling of fullness in the head not amounting to dizziness. It does not produce drowsiness in this patient. I think that one tenth to one eighth of a grain of the extract or its equivalent of the tincture is sufficiently large for the initial dose.

GEORGE T. McCOY, M. D.

THE MANAGEMENT OF THE MENSTRUAL EPOCH.

NORTHAMPTON, MASS., *June 7, 1890.*

To the Editor of the New York Medical Journal:

SIR: It is well known that the menstrual epoch is to woman the *bête noire* of her existence, and, although the spirit of universal progress has elevated her in every other respect, she is still forced to wear the primitive napkin of her earlier ancestors.

The practiced physician can readily revert to the period when he received the first professional confidences of the feminine heart in which the burden of her soul was voiced in the rebellion of her delicate and sensitive nature to the inevitable and oft-recurring event which wrung from her lips the cry "unclean!"

During the past few months I have adopted a procedure which has afforded me the heartfelt gratitude of every woman who employs it.

For obvious reasons, its use will be largely confined to married women. A full-sized tampon of antiseptic absorbent cotton, to which a string is attached, is inserted into the vagina through a speculum as soon as the premonitory symptoms of the approaching menstrual epoch are noted.

It will support the congested uterus and relieve in a great measure the usual accompaniment of backache.

It may be left *in situ* for twenty-four hours, unless the uterine discharge begins, when it should be removed as soon as it is saturated, and the vagina washed out with a warm antiseptic solution by means of a fountain syringe, and a fresh tampon introduced. This procedure should be continued until the flow ceases.

The principal disadvantage of this method is the difficulty of using the speculum and preparing and introducing the tampon; but I have met with no case where one or two lessons did not teach the woman the *modus operandi.* Its advantages are many. There is entire absence of odor, no necessity of wearing the napkin, and the sense of support to the uterus afforded by the tampon is immediate and exceedingly grateful.

Many women who had formerly to remain in bed for one or more days can, with this method, attend to their usual duties without fatigue.

In many cases of menorrhagia this procedure has modified the flow and contributed to a complete return to normality.

I have met with no cases where the injection of warm carbolized water during the menstrual period was other than beneficial.

In conclusion, I earnestly recommend the general adoption of this method where it is practicable, as from a thorough trial of it I have been led to believe that it will do all I allege for it in a most satisfactory manner, and perhaps mark a new era in the alleviation of human suffering.

A. W. PARSONS, M. D.

A PROPOSED RELIEF FUND.

600 MADISON AVENUE, NEW YORK, *June 9, 1890.*

To the Editor of the New York Medical Journal:

SIR: An effort is being made to raise a fund for the aid of Dr. J. Hancock Douglas, who is now a patient in the Presbyterian Hospital in this city. Although this is not to be limited to the medical profession, it is hoped that the professional brethren of Dr. Douglas will do something for his relief.

Dr. Willard Parker, No. 50 West Ninth Street, has kindly consented to receive contributions for this purpose.

T. Gaillard Thomas, M.D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of April 24, 1890.

Dr. Egbert H. Grandin in the Chair.

A Case of Kyphotic Pelvis.—This was the title of a paper by Dr. C. D. Scudder. He thought that the history of the following case presented features of considerable interest to accoucheurs: The patient, Miss Z., was a short, slight, deformed little woman, apparently but fifteen years old, was unmarried, and was really twenty years of age. Her history was that at three years of age she had suffered from an attack of rickets which had lasted until she was twelve. She menstruated first at thirteen, the flow appearing irregularly up to March 11, 1889, after which she had become pregnant. Inspection of the patient had showed a lump on the back and another on the front of the chest. The body was imperfectly developed with the exception of the generative organs, which were perfectly formed, both externally and internally. She had seemed to be in the thirty-first to the thirty-fourth week of pregnancy. The following measurements were made to show the relation of parts: On the right side the distance between the anterior superior spinous process and the twelfth rib was an inch, and on the left side half an inch. From the top of the pubes to the lower extremity of the ensiform cartilage was five inches. The distance between the superior anterior spinous processes was seven inches and three quarters. The circumference of the body on a level with the hip joints was twenty-seven inches and a half. The approximate measurements of the pelvic brim were at the inlet, antero-posteriorly, three inches; transversely, two inches and three quarters to three inches. The lumbosacral angle was very prominent and jutted well forward into the pelvis. The sacrum was very concave, describing a half circle on its anterior surface and terminating in a coccyx pointing markedly forward. The outlet showed a transverse measurement of two inches and a quarter, and antero-posteriorly two inches and a half to two inches and three quarters. After careful examination and consultation, it was decided that some mode of procedure must be adopted at once, as the patient was growing weaker. It was decided to give her the benefit of conservative treatment first, resorting afterward to an operation if necessary. Accordingly a soft bougie was introduced into the uterus and labor brought on. In a few hours the cervix was sufficiently dilated for the expulsion of the child. Good labor pains had set in after the escape of the water, but they were ineffectual. The head had presented, together with an arm, but made no further progress on account of the contracted brim. Preparation was now made to do a Porro's operation in case version should fail. External version was attempted without success. The patient was then anæsthetized and the hand introduced into the vagina and two fingers were pushed into the uterus. After three quarters of an hour a foot was grasped, version was completed, and extraction made, the head being delayed some time at the brim. There was no trouble with the placenta. The infant had survived about thirty hours. The measurements made after its death were as follows: Circumference of the head, thirteen inches; occipito-mental diameter, four inches and five eighths; occipito-frontal diameter, four inches and an eighth; suboccipito-bregmatic diameter, three inches and three eighths; cervico-bregmatic diameter, three inches and three eighths; fronto-mental diameter, three inches and three eighths; biparietal diameter, three inches and three eighths; bitemporal diameter, three inches and two eighths; length from head to feet, seventeen inches; circumference of body at axilla, nine inches and a half; bi-acromial measurement, four inches; weight, three pounds, thirteen ounces. The patient's recovery was perfect. The successful issue of this case had proved what could be done under disadvantageous circumstances by conservative obstetric treatment.

Dr. Hoffman, of Philadelphia, said that the Cæsarean section, of course, had its place in surgery and in obstetrics, but it must always yield precedence to the more conservative measures, especially where the pelvis was not materially deformed.

Dr. J. M. Baldy, of Philadelphia, thought that the temptation to perform so easy an operation was very great. Women who had been previously delivered a number of times of healthy living children had been put upon the table, when difficulty arose, without any previous attempt at delivery in the natural way.

Dr. Dudley did not believe that the Cæsarean section should be commenced until the woman had been in labor for some hours, because, as had been urged by the previous speakers, it was quite possible for cases supposed to call for the operation to end by natural delivery of the patient.

The Chairman congratulated Dr. Scudder on his very successful case. He wished to be understood as on the side of those who advised the induction of premature labor in conditions such as kyphotic pelves, rather than to allow the woman to go on to full term and incur the great risk following craniotomy. He did not quite agree with the previous speakers in the matter of the Cæsarean section. He had already stated his belief that the time would come when, in the presence of absolute indications, the physician would deem it his duty to subject the mother to an operation of no very great risk, rather than sacrifice the living child. In these days, when the surgeon went boldly at the removal of tubes and ovaries, there was no great reason for hesitating at an operation the principal requirement of which was an ability to suture the uterus.

Dr. Scudder said that there was nothing in the statistics of either the Cæsarean section or Porro's operation from which the inference could be drawn that such operations might be lightly undertaken. Doctors were prone to look at things from their own standpoint rather than from that of the patient, and a great many things were done upon which a jury would perhaps not look too favorably. Undoubtedly occasions arose in which the operation was imperatively called for. Even then it was better to give the patient reasonable time to see to what extent Nature would aid her before resorting to ultra-obstetrical means. The physician should, however, stand meanwhile fully equipped for any necessary operative interference.

An Aseptic Operating Table.—Dr. G. M. Edebohls exhibited a model of an operating table designed for gynæcological work. It consisted of a framework of galvanized iron, stated as being proof against the action of bichloride solutions, and a top constructed of movable glass slabs. The whole apparatus seemed well designed and practical in detail, and could certainly be kept free from septic material with ordinary care.

Salpingo-oophorectomy and its Results.—Dr. H. J. Boldt read a paper with this title. He said that when seeking for the best method of treatment of any particular disease or pathological condition we were guided to a certain extent by statistics which showed the results of various remedies employed in supposed similar conditions, and it was the object of this paper to give such report on the remedy indicated in the title, and to elicit in the discussion the experience of those who have had extensive opportunities for observation of the subject under consideration. The first question naturally asked by pronounced opponents to salpingo-oophorectomy was, "What became of the women in former years before such operation was in vogue?" Surely the same diseases must have existed then. If those afflicted with conditions in which the speaker urged the necessity of an operation could have been observed, it would be found that they dragged themselves along a life of chronic invalidism until after the menopause, or the appearance of some other acute disease, which, owing to their undermined health, they could not overcome; a certain other proportion again died of pelvic abscesses, peritonitis, and allied troubles, the cause of which was never determined. Again the question was asked, Why was it that so many patients with diseased uterine appendages got well with ordinary treatment? In the development of the tubes from embryonic life to puberty a partial solution of the problem was found. It must also be remembered that many cases treated got only temporary relief, for who had not operated upon patients for the removal of pyosalpinx, treated previously with rest, hot douches, tampons, massage, or electricity? To this latter class unquestionably belonged the majority of women in whom the entire tubal canal was patent and the uterine opening pervious or only slightly agglutinated, so that the contents of the tube could be drained by the utero-vaginal canal. It very frequently happened that operation alone did not cure the patient and that she might fall into the hands of a general practitioner or electro-therapeutist and a cure be the result. This was easily accounted for when we considered that there was not a case of severe salpingitis, especially those of gonorrhoic origin, which was not accompanied by perimetric adhesions to a greater or less extent. The starting point of the perimetritis was invariably the diseased tubes, and according to the intensity of the inflammation and the time of its existence would be the severity of the perimetritis. When such appendage was released from its adhesions we would still have perimetritis remaining. Not only this, but a fresh exudation would form as the result of tearing those adhesions. It was in these conditions that subsequent local treatment, the exciting pathological condition having been removed, would give a permanent cure. It was also important, in case the condition made it essential to establish the menopause in the respective case, to remove all of the ovarian stroma; though the tubes were removed, the monthly congestion continued for a long time. The speaker insisted on the necessity of keeping under observation and treatment women afflicted with chronic salpingitis for a number of months, and avoiding the use of the knife until satisfied that nothing less than the removal of the diseased annexa would effect a cure. He advised radical treatment for all acute cases in which a much-distended tube could be recognized. The psychical disturbances produced by the operation varied; the speaker had not seen a single case in which some symptom of cerebral congestion was not present. This was the only condition which was found more marked by the artificial production of the menopause than when this change came about naturally. Purpura hæmorrhagica had occurred in one case of salpingo-oophorectomy, and once after double ovariotomy for ovarian cystomata. Pelvic abscess had been observed but once after operation in this class of cases; fistulæ not at all, and this the speaker attributed to the non-use of silk for tying the pedicle. Ventral hernia had occurred only once. The observations upon which the speaker based this contribution were given in the fully detailed histories of one hundred and twelve cases of salpingo-oophorectomy, in which only eight deaths had occurred. Out of the total number only ten had not been improved by the operation; twenty-five improved; giving a sufficient length of time after the operation to be positive, fifty-eight were reported cured. In twelve of the cases an insufficient length of time had elapsed to determine what would be the outcome of the operation. The speaker did not desire to be understood as wanting to see the various other remedies used in diseases of the uterine appendages supplanted by the knife; on the contrary, he upheld conservatism, and was a strong advocate for the use of other remedies. He could not stand by and allow this or that one to put on claims for a certain mode of treatment and decry the surgeon's knife, irrespective of the ætiological factor and the pathological state of the disease. He thought it was a duty to the public at large not to become one-sided and unscientific, and as physicians it was best to be broad and eclectic in the treatment of disease.

Dr. Joseph Price, of Philadelphia, said that in discussing such a paper there was little room or time for theorizing, except so far as a theory advanced could reasonably be claimed as proved by the facts in an operator's experience. It was easy to dogmatize on this or that, formulating a pathology to answer the indications of a special case, or to excuse a blunder or explain a result, but such special pleading was neither scientific nor honest, and could have no place in such a gathering. He wished, in the first place, to insist that in the class of cases dealt with under the present discussion there was no excuse for an introduction of the claims of conservative surgery. In the work they were discussing he took it that they operated for a distinct lesion, a pathological condition, often obscure and oftener impossible of exact diagnosis, but nevertheless real, as a surgical affection. If they cut and did not find it, the incision was to be regarded as merely exploratory. The bane of some of the so-called abdominal surgery of the day was a prurient desire to do abdominal surgery. The doing started on utter inability to diagnosticate even a pathological condition, and ended in removing a tube or ovary in which the functions were unimpaired. Or it began in operating simply for pain without a distinct lesion. In this latter class of cases the result must always be uncertain. His own rule was to operate only for real, discoverable—not microscopic or inferential—disease. Some of the worst results of this special surgery were due to meddlesome interference with organs far better let alone. His observations were based upon a long series of cases, carefully studied for the purpose of determining the after-results of abdominal operation for various conditions. In the first place, in noting psychical effects, he had as yet seen no case of insanity produced by the operation. He had done the operation for women whose minds were on the verge of insanity, and the result had in each instance been markedly satisfactory. To attribute insanity to the removal of diseased appendages or a myomatous uterus was just as illogical as to say that in a farmer's wife insanity was caused by the accidental burning of her bread in the oven. Not only had there not been a case of post-operative insanity in his own cases, but there had not been to his knowledge, one reported in Philadelphia. It was time for this complication to be ruled out as peculiar to abdominal surgery. Hospitalism was a more frequent source of misfortune in these cases than any other psychical manifestation. When a woman with a real or imaginary affection had gone the rounds of all the hospitals, where every application known to the chemist was applied to her anatomy, inside and out, with the express intention of curing her without mutilating her, or of reclaiming her from a state of nervous prostration, or general debility, or anything else, she either got into a condition of chronic imbecility, from which there was no arousing her, or was morbid with the idea that any surgical interference was a mutilation of her body, which, though full of pus or deformed by the hugest myoma or ovarian cyst, was an anatomical perfection, only to be preserved by conservatism, poultices, and electricity. The operator who got the final hold on such cases was to be pitied. The cry against the unsexing of women already unsexed by disease was the worst kind of nonsense, because it was dangerous. Among the most common after-effects of operation, peritonitis, local or general, was frequently dwelt upon. Dr. Coe had, in a recent paper, referred to Martin's results. Martin had made a record of peritonitis which should not be taken as a standard—fourteen deaths in seventy-seven cases. The use of intra-abdominal antiseptic solutions must be regarded as especially conducive to intestinal adhesions. It was time to rule such causative procedures out of the technique of work. In the presence of vesical sequelæ they had to deal not so much with a condition caused by operation as with one caused by interference with the bladder after operation. The bladder by its nature resisted adhesions after operation. Improper care of this viscus subsequent to operation, or interference with its functions by direct interference of a permanent nature by operation, was by far the most common cause of all vesical disturbance. In his own work such sequelæ had been rare, and not permanent. The cause of adhesions, complicating the work of future operation, was delay in operating at once when a recognized operative condition was encountered, or in imperfect operation when that was done. Among the many mechanical causes of cystic trouble he considered the drawing up and stitching of suppurating cysts and pus sacs into the abdominal incision as a most pronounced one. The proper way to deal with these cysts was to remove them; not to allow them to distort the normal anatomy of the surrounding parts by post-operative adhesions. Prolonged treatment in the presence of well-defined pelvic lesions could never be of any service whatever. In this catalogue must be placed galvanism and intra-uterine treatment of any form whatsoever, especially dilating and scraping. Where there was a distinct gonorrhœal history the delay was more than culpable. Vesical disturbance was very frequently traceable to the methods of tying up the uterus. This, it would be remembered, appeared plainly in one of the cases lately published by Dr. Coe, as it also did in one of Dr. Eastman's most annoying cases.

Complications arising from adhesions of the stumps seemed at times to be unavoidable, though he was convinced that, with careful tying and ligaturing, such accidents could be rendered so infrequent as to be unimportant. Ligaturing with silk coarse enough to set up inflammation previous to its encystment was to be avoided. When in second operations old adhesions were found implicating the bowel, the proper method of dealing with them was to deal with the bowel directly, so as to remove all tissue bared of its peritonæum. This would obviate the re-establishment of adhesions and the consequent discomfort of the patient. The use of the cautery as advocated by some was to be deprecated, both here and in old inflammatory pedicles. There should be clean removal of the diseased tube to its root. So far as post-operative inflammatory sequelæ were concerned, he insisted that they should not occur. Any operation that had as a sequence pelvic abscess, vesico-vaginal fistula, or mural abscess, apart from stitch-hole abscess, had had somewhere in its execution a failure, which should be recorded against the operator, and not against the operation of abdominal section. Fæcal fistulæ, fistulæ from any other cause, and ventral herniæ deserved a somewhat different consideration. If a drainage-tube was carefully managed, he held there was no need of its ever producing a fistula. He did not believe, moreover, that it could of necessity be considered a cause *per se* of ventral hernia. With bad after-management, the omission to use and insist upon proper abdominal support, too early rising, and careless or improper suture, it might come in as a factor of this accident. As to abscesses caused by improper ligature of the pedicle, and the subsequent throwing off of the ligature, this might be oftenest avoided in degenerated tissues by tying only in healthy tissue after the removal of all other; in healthy stumps it should not occur.

Dr. Howard A. Kelly, of Baltimore, thought the whole field of inquiry was a comparatively new one, and that the question required time for its proper solution. It was the lives saved that should be taken into consideration, and not those lost. Generalizing upon such a theme was worse than useless. Some few women were restored by operation in a few weeks, but in the larger number operated upon only a certain percentage were improved, while some patients were really not benefited at all, although seriously diseased structures were removed. Therefore he thought that this branch of abdominal surgery was on the same plane as that of general surgery, the results being only relatively good.

Dr. W. T. Lusk reiterated the opinions expressed by him a few weeks ago upon this topic to the effect that when surgical treatment of the tubes was first proposed he had accepted the theory and practice with enthusiasm, especially when there appeared no more risk connected with the operative procedure than existed in ordinary confinement. But as time had gone on and the patients upon whom he had operated had come back to him, he was by no means so satisfied with the results. He was surprised and delighted to hear that the experience of others had been more favorable than his own. He could not but feel that the younger class of patients had suffered more or less from mental depression when their tubes and ovaries had been removed. They were no longer the same beings. In some this depression took the form of a mania to urge other women to undergo the same operation. He thought that careful examination would demonstrate to physicians that in many of the cases radical operation might be avoided and means devised for effective treatment. Leaving the tubes and ovaries intact was a step in the right direction, and he hoped the time was coming when this might be done consistent with the effective treatment of existing pathological conditions.

Dr. W. M. Polk said that in the main the results of his operations had been good. They had been largely performed for such conditions as well-defined salpingitis and oophoritis, with destruction of the organs by extensive purulent or cystic degeneration. Still he was now convinced that many of these patients would have got well without his interference. It had come to him with a good deal of force that, after all, women had something more to expect from the operator than mere freedom from pain or from danger to life. He had noticed that women under thirty had, after removal of the tubes and ovaries, given evidence of the depressed conditions of which Dr. Lusk had spoken. They seemed to regard themselves as a class by themselves. This had made the speaker feel that, after all, a great deal should be risked before any radical interference was attempted. He thought that oophorectomy and kindred operations had been so indiscriminately practiced as to have brought as much discredit as honor upon gynæcologists.

Dr. H. C. Coe reverted to the position taken by him on this subject in a recent paper, and said that he never could be taught to believe by any statistics but that adhesions, which gave rise to future trouble and persistent pain, supervened in a large proportion of patients subjected to this operation.

Dr. Dudley thought the speakers had wandered from the points called for by the writer of the paper. As he had before stated, there was no doubt that the operation often cured the condition for which it was undertaken, though there might occur pain of a different character. The results would depend very much upon the form of disease for which the operation was undertaken.

Dr. A. H. Goelet said that he could only reiterate his previous statements that this operation should never be done except as a last resource to save life, or when it was absolutely certain that there was no other course open. Above all, it should never be considered justifiable as long as a patient showed improvement under some one of the conservative methods of treatment. This opinion he must continue to hold as long as the ultimate results of the operation were so uncertain and so unsatisfactory. In a recent paper read for discussion he had made the assertion that the ultimate results of these operations were not entirely satisfactory in more than half the number operated upon, and the statement had passed without question.

What inference was to be drawn from this, knowing as we did that the operation had been by no means confined to desperate cases? If confined to its legitimate field, he ventured to say that it would not be undertaken so readily by those who now championed it so enthusiastically. He would ask the question of those gentlemen who operated exclusively, or by preference, in how many of their cases the results had been such that they or their patients had wished since that the operation had not been done?

Cases were constantly coming under his observation, and coming to him for relief, where the condition after the operation was worse than before, and they had come from the hands of by no means inexperienced operators. Apart from this, the operation was always attended with more or less risk to life, it mattered not who the operator was. In some instances where the operation was most demanded nothing could be done when the abdomen was opened, the pelvic contents being so firmly matted together that it was impossible to separate anything for removal.

Dr. Baldy, of Philadelphia, said that, in spite of the expressed opinion that the only indication for the operation was the impending death of the patient, he felt that pain was a sufficient indication for its performance. If, however, they took women who had for years suffered from chronic disease, operated on them, and expected to cure them, it was impossible, because they were already beyond the range of surgery and medicine, and also beyond the range of that humbug, electricity. The speaker then stated his conviction, in no measured terms, that electricity as a therapeutic agent in this class of cases was worse than useless, and hinted that those who practiced it were little better than blind leaders of the blind.

Dr. Goelet said that he was sorry to have so much mud flung at electricity. He did not believe it deserved the treatment which it had received from the last speaker any more than any other conservative method did which had for an object the restoration of patients without subjecting them to an uncertain and always dangerous operation.

Electricity did soften adhesions, which allowed stretching and displacements to be corrected which would not be possible except perhaps by massage. It would also cause absorption of deposits which fixed the pelvic organs and which might be mistaken for adhesions.

The Chairman said that he was obliged to call himself a conservative and possibly, from Dr. Baldy's standpoint, a humbug also. There was one condition in which he granted the operation was urgently called for, and that was in pyosalpinx. It could be cured in no other way. When they came to catarrhal salpingitis, cystic ovaries, and hæmatosalpinx, then he begged to differ with the gentleman from Philadelphia. The old-fashioned treatment by the hot douche, and so forth, while it might not cure these cases, would, if properly used, effect a symptomatic cure. It was possible by routine measures, including electricity, to obtain just as good results in the matter of the patient's physical well-being as by the use of the knife.

SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

First Annual Reunion, held in Mott Memorial Hall, New York, April 8, 9, and 10, 1890.

The President, Dr. Richard Kalish, in the Chair.

First Day—Evening Session.

The Treatment of Simple Fracture of the Patella by Wiring.—A paper with this title was read by Dr. Charles Phelps. (See pages 595 and 621.)

Dr. Robert Abbe was invited to open the discussion. He said that the large experience of Dr. Phelps was almost phenomenal, and reminded him of a recent letter from Dr. Keen, of Philadelphia, who asked how it was that there were so many fractured patellæ in New York. Dr. Abbe ventured the opinion that it might be due to the rapidity with which New Yorkers moved. He recalled the exhibition of cases made some years ago by the late Dr. Frank H. Hamilton, consisting of eleven fractured patellæ treated by a simple posterior splint. The best case in that series as regarded the action of the knee joint was one in which there was the greatest separation of the fragments—*i. e.*, four inches and a half—and yet the joint was freely movable. In the other cases ligamentous union was uniformly the result, and while many had competent joints, the majority of them had joints showing weakness in one way or another. At the recent meeting at the Academy of Medicine, in which this subject was discussed, seventeen cases were presented, ten being exhibited by Dr. W. T. Bull as illustrations of the results he had obtained by the non-operative method. Of these, one or two had remarkably good joints, bearing the full weight of the patient and admitting even of violent exercise, while the remainder of the ten presented joints having more or less perfect action, but not as satisfactory in several instances as the cases presented here to-night. The remaining seven cases presented at that time showed the results attained by the operative method, which were at least equal to the very best of the non-operative ones. If one could be sure of obtaining such uniformly excellent results as those exhibited this evening, nothing more could be desired. The clear and detailed description of the technique of the operation was worthy of attention, particularly the important matter of closing the capsule. The irrigation of the joint, he thought, could be dispensed with; it seemed needless interference. Those who had seen the barrier to bony union caused by the fibrous fringe dropping in between the bony fragments could not doubt the propriety in many cases of operative measures for the purpose of removing this. The danger of the operation, in the hands of the general surgeon, seemed to be in the liability of causing fibrous ankylosis, a condition which was not so good as a weak and more flexible joint. The procedure was of much importance from its medicolegal aspect, and thanks were due Dr. Phelps for the favorable light in which his experience had enabled him to place the method before the profession. In the hands of the average surgeon—and the average surgeon was everywhere—the procedure was always dangerous, and the general practitioner should never undertake it; but the careful surgeon who had won laurels in the field of antiseptic surgery could safely and justifiably perform it.

Dr. J. D. Bryant joined in thanking the author for his valuable paper; and, while fully appreciating the work and methods expounded in it, he thought the author's criticism of those who differed with him was too severe. The real question was, whether or not the operation should be presented to the profession at large, as one which the ordinary surgeon and general practitioner should resort to in preference to the old and well-established methods. In one of the four cases in which he had operated, caries had occurred along the course of the wire. This might have been due to his having made an unnecessarily large drill hole; but, if so, the fact that the neglect of so small a detail was followed by such disastrous results was an argument against the general adoption of the operation.

Looking back to gather lessons from the past, we found that, out of one hundred and twenty-seven cases presented by Dr. Frank H. Hamilton, by far the larger number had ligaments less than half an inch in length. About nine or ten had ligaments less than three quarters of an inch long; and an equal number, ligaments measuring an inch and three quarters to five inches in length; but in not one of the one hundred and twenty-seven cases was it reported that there was any risk of life or limb—a result which he could but think would not have been obtained in an equal number of operative cases.

Passing from this series in 1880 to the cases collected by Dr. F. S. Dennis and reported in 1886, we found, out of one hundred and eighty-seven cases of wiring of the patella, seventy-five reported as "good" and thirty-five as "fair": but the latter class embraced seventeen cases of partial ankylosis. Twenty-four were classified as "poor"—*i. e.*, with complete ankylosis. In eleven cases the patients had died as the result of the treatment, and two or three had had their limbs amputated. These cases were not the work of any one surgeon, but were gleaned from all sources, and hence should give a more correct idea of the results of the operation in the hands of the average surgeon. Three of the forty-two cases presented to-night had superficial suppuration; but until these operations could be made so perfect that no suppuration would occur either within or without the joint, the operation should not be put forward as the best method of treatment. Although he had never seen suppuration taking place in the knee joint when proper precautions as regards antisepsis had been employed, he would hesitate very much to tell a class of medical students that they might open the knee joint whenever they saw fit. Out of Dr. Bull's cases, eighty-seven per cent. were without atrophy, and possessed all the movements characteristic of the joint, while of the remainder, which were classified as "unsatisfactory" results, only one or two of the patients were obliged to make use of any artificial appliance. He firmly believed in the propriety of wiring the patella in certain cases—*e. g.*, in compound fractures—but he did not believe in wiring the patella indiscriminately. As it had been proved that the non-operative method yielded very good results without any risk to the life or limb of the patient, it was manifestly improper to recommend as the best method of treatment a procedure which, in a series of one hundred and eighty-seven cases, caused a mortality of six per cent.

Dr. F. S. Dennis said, in regard to the statistics which had been already quoted, that these figures represented the results of operators from all parts of Europe and America; and it was worthy of note that the last sixty-nine cases showed a death-rate of 1·4 per cent.—a mortality which was not greater than that which a few years ago attended the amputation of a finger. He had personally wired over thirty patellæ, and had had no death following the operation, except one which was clearly due to delirium tremens. As a proof that this death was not referable to the operation, he showed a specimen of the knee joint of this patient, and also that of a patient who died of delirium tremens one week after a simple fracture of the patella without operation. He had had no suppuration in the joint, and only two cases where there was very slight suppuration along the drainage-tube, which had been left in place too long. There was no ankylosis, and many of the patients so operated upon had joints which were as good as before the accident. The two important advantages of the operation were (1) simplicity and (2) rapidity of cure. He did not consider that the operation required any special skill in its technique beyond that involved in the application of the general principles of antiseptic surgery; and he had often done the operation in eighteen minutes. He had had patients walk into the clinic without any crutch three weeks after the operation, and he had known them to be at work again in six weeks. This saving in time was a very important consideration to the poor laboring man. He had operated upon one patient who was an inebriate, with a mitral regurgitation and well-marked Bright's disease. The patella was wired without etherizing him, and the joint at the present time was an extremely useful one. He did not think such a result could have been obtained by any other method. He was perfectly willing to admit that an anæsthetic was always a source of danger, but he did not think there was any danger in opening the joint under proper antiseptic precautions. In fact, he considered the knee joint presented a very good field for antiseptic surgery. The objection had often been raised that a patella which had been wired was more liable to refracture; but where such fractures had occurred it had been found to be not at the line of union, but at some other part, which in itself was an argument in favor of wiring. In one case which had come to him with a separation of six or eight inches, the patient being unable to walk without a crutch, he had brought the fragments nearly together by wiring, and obtained a better result than he could have secured by other methods, the patient being able to bend the knee to a right angle, and to walk without any crutch.

Dr. C. A. Leale continued the discussion, referring to experiments which he had made with his preceptor, Dr. F. H. Hamilton, in producing various fractures of the patella by direct violence, while the limb was held in different positions. Their efforts to cause fracture simply by sudden and violent muscular contraction proved unavailing. He had had considerable experience in the conservative treatment of simple fractures of the patella, and had obtained very satisfactory results, even in cases where the ligaments were from half an inch to an inch and a half long. The conclusions deduced from the experiments and from twenty-five years of observation of the non-operative treatment had convinced him that the conservative plan was the better one, and that the method of wiring was extra-hazardous. The ardent surgeon might say that with our present knowledge of asepsis there was no danger of septic infection; but many experienced surgeons, who could not forget painful disappointments, would confess that the risk was too great for the problematic benefit. When the patient had been directly asked, "Would you incur one chance in a hundred of death (which is a very small proportion) to have your separated patella fragments, with an inch of strong ligamentous union, changed by an operation to one of bony union with the consequent benefits?" the answer had invariably been an emphatic negative. But in cases of compound fracture of the patella, with or without comminution, modern antiseptic surgery had made rapid advances. Over ten years ago Professor Lister had first drawn attention to wiring the patella, and the speaker well remembered the criticisms that he had heard upon this procedure while on a visit to England in 1881. Several American surgeons had improved upon the details of the operation since that time, and among the first to resort to it was Dr. Charles Phelps, who probably had had more cases of this kind than any other American surgeon. He had had a number of opportunities of witnessing the manner in which Dr. Phelps dealt with these serious injuries of the patella, and had seen him cut directly down into the knee joint, clean out all extraneous substances, trimming off portions of bone and other tissue, which would otherwise have sloughed away by a very slow process. He had seen him operate in some of the worst cases that could be presented to a surgeon; and, instead of subjecting the patients, as of old, to excection or amputation, he had enabled them to recover with useful limbs. It was no more than just to Dr. Phelps to state that he did not exclude the worst injuries, but had taken for his demonstrations many of the most unfavorable and most complicated cases. He had seen him retain in juxtaposition as many as seven distinct comminuted portions of the patella. It was particularly in such severe cases that he believed Dr. Phelps had done such excellent work.

Dr. L. A. **Stimson** considered that the cases presented showed very handsome results, and the reason that many surgeons of world-wide reputation on both continents refused to accept the operation in the face of such results was *not* because they were prejudiced, but because they were actuated by a sincere regard for their patients' best good and safety. It seemed that the advocates of this operative treatment were looking for better results than the patient himself desired; and, although the patient was satisfied with the result, Dr. Phelps had made use of flexion under ether in order to get a freer range of motion. At least one case of refracture had resulted from this innovation. Dr. Stimson said that he had very recently presented nine patients out of a series of twenty-five cases of fractured patella who had been operated upon by subcutaneous ligation. The cases presented such excellent union that no independent mobility of the fragments could be obtained. The argument in favor of the operation was that it was the only method which secured bony union. Granting this, was it necessary? Thousands of men walking the streets with firm ligamentous union replied in the negative. Wherein, then, lay the advantage? On the other hand, there were serious dangers, and our best efforts were liable to be followed by disappointments. Very recently bacteriological experiments had shown that even prolonged soaking of the hands in water so hot as to be almost unbearable did not cleanse the hands from germs. Hundreds had lost their lives as the result of operations which would never have been undertaken except for the promises held out by antiseptic surgery. The great majority of cases of fracture of the patella could be treated without wiring, and even without subcutaneous ligation, and yield results which were perfectly satisfactory both to the patient and to the surgeon. In some cases wiring was undoubtedly necessary, and it could be done with a reasonable hope of success, but it should not be put forward as the proper operation in all cases. On the contrary, he thought we should lay great stress upon the statement that open arthrotomy ought to be reserved for specific indications and practiced in a very small percentage of cases. He had recently been told of a conversation upon the treatment of fractured patella in which a surgeon who had done a great deal of open arthrotomy took part. When this surgeon was asked if he would be willing to have *his* patella wired, he replied: "Oh, yes, I should like to have my patella wired, but I don't know where I could find a man whom I should like to have do it."

Dr. **Stephen Smith** said that his experience with wiring the patella was embraced in about fifteen cases, none of which had proved fatal. He had observed some superficial suppuration, but only one case of ankylosis where there had been no inflammation other than that caused by opening the joint. He always used two sutures and sometimes three, and had obtained equally good results from wire and silk. Five of the patients had been seen after periods of from two to five years subsequent to the operation, and all had useful limbs. He had great confidence in the ability of the surgeon to operate without any serious results to the patient, but, in view of the good results obtained by the ordinary method of treatment, he would be inclined to limit the operation to cases of refracture. In cases of primary fracture he presented the advantages and disadvantages to the patient and let him decide. Lister laid down a very good rule when he said the operation should never be undertaken unless the surgeon be morally certain that no septic matter entered the wound. In view of the statement just made about the difficulty of even cleansing the hands properly, this rule would seem to be a very safe guide, and, if followed, would probably prevent the performance of many operations.

Second Day—Morning Session.

Clinical Lecture at Bellevue Hospital, by Dr. Lewis A. Sayre.—The first case was that of a little girl who had been referred to Dr. Sayre for treatment two weeks before. At that time she was unable to stand except with crutches and a person on either side of her to steady her. It was the worst case of talipes varus that one could possibly see. The muscles were almost inactive. The feet were molded into shape by firm manual pressure continued for some time, and plaster-of-Paris shoes were applied. Plaster casts were taken at that time and were now ready for purposes of comparison and study. Dr. Sayre illustrated the manner in which the muscles had been treated during these two weeks by faradism and massage, carried on with the rubber muscle-beater and the rubber hammer. Three minutes were usually sufficient for the application of the faradaic current, and it should never be applied for more than five minutes, as it would tend to exhaust the muscles. For the same reason this application should be followed by a long period of rest. "Resisted movements" were also useful in developing the power of the muscles. A most important part of the treatment was to compel the child to use her feet in walking. Four days ago she was able to stand on her toes, and now she could walk a little with only slight support. The improvement in her condition in this short time was truly remarkable.

This plan of treatment, properly carried out, would result in a perfect cure. When the arch of the foot was flattened, the patient often suffered the most agonizing torture. To hold the arch of this girl's foot in position, a curved steel plate was placed in the sole of the shoe. It had been intended to introduce the modified plate lately brought forward by Dr. Whitman, of Boston; but the plate was not quite completed. Shoes provided with the ordinary "spring soles" were then applied to this child, who was then able to walk across the room with very little difficulty and without any assistance whatever.

The next patient was a young man who, just twenty-five years ago that day, had had the head and some of the shaft of the femur excised by Dr. Sayre. The patient was at that time a little child; but now he was able to do a full day's work on a farm, and the limb gave him no inconvenience. The best excision of the hip which the lecturer had ever done was on a physician, from whom he had removed four inches of the femur and the whole of the acetabulum, with the result of securing perfect motion.

Another case of excision of the hip was that of a child, nine years of age, who had been admitted to the hospital on August 21, 1889. The family history was good, and the child had had no diseases except measles and scarlet fever. Eighteen months before admission the patient fell on the ice, striking on the hip and knee. The accident caused temporary disability, but after about three weeks the child seemed as well as before. About one year later the right knee began to grow painful, especially on the inner side, and there was some stiffness of the knee and hip. About six months after this the child was compelled to go to bed, and has remained there ever since. In October of

1888 an abscess formed on the anterior surface of the thigh, midway between the hip and the knee, which was incised in January, 1889, and some pus evacuated. The patient's general health failed rapidly during the six months previous to admission, and another abscess formed in the groin and opened spontaneously. On admission, in addition to the abscesses already mentioned, the right knee was found somewhat flexed, and the knee and hip on that side were painful; appetite was poor; the child was extremely emaciated and anæmic. On August 31st the patient was etherized for the purpose of incising and curetting the abscess cavity; but this could not be completed, as, after fifteen minutes, the child went into collapse, and was with some difficulty resuscitated. Thorough drainage was established, and the wound washed out twice daily with permanganate-of-potash solution. Subsequently the wound was irrigated with equal parts of distilled water and peroxide of hydrogen. On December 13, 1889, excision was performed by Dr. Litchfield, the house surgeon, about two inches of the shaft being removed. The upper end of the femur was beveled with bone forceps, the acetabulum thoroughly drained, and the wound packed with iodoform gauze. Before the operation the pulse was 150, and after it 200. The operation lasted only twenty-five minutes, but the child suffered considerably from shock. He was placed in the wire cuirass and began to improve at once. From the photographs exhibited one would hardly recognize the child now. At present his condition was such as to warrant the application of a portative traction splint. An Archimedes screw on the apparatus enabled the surgeon to correct the slight eversion of the foot which was present. Dr. Sayre said that some of the best results he had obtained from exsection had been in apparently desperate cases, even where there was well-marked waxy degeneration of the liver and kidneys, with general œdema and albuminuria. He then illustrated the manner of applying the long traction hip-splint. In ordinary cases of hip-joint disease it was, of course, necessary to build up the sole of the shoe on the well side; but in this case of exsection the well leg was two inches longer than the other, and hence this was not required. The perineal straps should not be allowed to pass across the line of the femoral vein so as to exert injurious pressure upon this vessel; and the posterior portion of the straps should be adjusted so as to keep them at a distance from the anus. An elastic strap was stretched from about the middle of the shaft of the instrument in a slanting direction backward to the hip band. This was intended to counteract the action of the psoas magnus and iliacus muscles. Parallelism of the limbs could be secured by the use of the "abduction screw." The tension of the splint was adjusted so as to make the patient comfortable. It would be observed that as the patient walked the ankle straps became loose; but this did not mean that there was no traction upon the leg, for the perineal straps prevented the weight from coming upon the acetabulum.

The next patient was a boy with hip disease. In the first stage of the disease it was better to put the patient to bed and make traction with adhesive plaster in the line of the deformity, lessening from day to day the angle at which traction was applied; and when the deformity was completely reduced, then, and not before, could any splint be applied with advantage. By stripping the patient and standing him before you, you could always make a diagnosis of early hip disease. In the first stage of the disease the thigh would be slightly flexed and abducted, the gluteo-femoral crease on the diseased side would be lower down than on the other side, the toes would be very slightly everted, and there would be some limitation of flexion and extension. On placing the child on his back on the floor, it would be found impossible to make the diseased limb and the lumbar spine touch the floor at the same time. While the deformity was being reduced by traction in bed in the manner already described, it was sometimes advisable to place the patient in a wheel-chair, or on an improvised bed, so as to secure the benefits of fresh air. Occasionally lateral traction was also necessary, and this could be secured by means of a handkerchief fastened around the thigh and made to pull outward.

Second Day—Afternoon Session.

Injuries of the Hip and Absorption of the Neck of the Femur.—A paper with this title, by Reuben A. Vance, of Cleveland, O., in the absence of the author, was read by the secretary, Dr. W. N. Hubbard. (To be published.)

Dr. L. W. Hubbard said that the condition described in the paper was quite rare, but the histories presented impressed him with the idea that these were cases of chronic hip-joint disease occurring in adults—in other words, a tubercular infection of the head and neck of the femur. The first man was said to have had phthisis, and the post-mortem examination showed lesions quite characteristic of certain forms of tubercular inflammation of bone. A tubercular lesion in the bone of an adult pursued a very different course from that found in a child. The fact that these patients were able to go about with a simple limp was not a proof that they were not cases of hip-joint disease, in which there was a slow, dry form of disintegration, allowing of more or less mobility of the hip joint for a considerable time. He believed that the great majority of cases of hip disease was caused by slight traumatisms—so slight that no treatment was instituted, and so an excellent opportunity was given for the development of a tubercular degenerative process.

Dr. R. H. Sayre agreed with the previous speaker in calling the cases described in the paper cases of hip-joint disease. In the last history, where sudden shortening occurred within two months, there had been probably an impacted fracture along with the dislocation, which had been broken up by the patient's going about. The shortening occurred too soon after the injury to be due entirely to the absorption of bone resulting from irritation and osteitis. Nor did the presence of nocturnal pains exclude such a condition, for he had seen a case of impacted fracture in which this symptom was quite prominent.

Dr. J. McG. Woodbury also considered these cases examples of hip-joint disease. He was of the opinion that the case where there was sudden shortening was one in which there were good grounds for a lawsuit. As regarded the "ultimate results," they were only shortening and diminished mobility, but nothing special to distinguish these cases from others.

Dr. John Ridlon, by invitation, participated in the discussion. He concurred in the opinions already expressed, and wished to add a word about the treatment. No matter how slight the injury to a joint, immobilization of the part should be maintained until motion was completely normal and all tenderness and pain had disappeared. In this class of cases he preferred immobilization by means of the Thomas hip splint, which was much better than the plaster-of-Paris spica, or the traction splint frequently employed.

Transient Glycosuria and Delicate Tests for Sugar in the Urine.—The next discussion was upon the above-named subject, and was opened by a paper by Dr. John Warren, which, in the absence of the author, was read by Dr. Koplik. (See page 653.) Dr. Brandreth Symonds followed with a paper dealing more particularly with the various tests for sugar.

Dr. H. M. Biggs presented for Dr. Samuel Alexander the records of several cases of transient glycosuria.

Case I.—Mrs. M., thirty-five years of age, was pregnant in March, 1885, for the fourth time. She had enjoyed excellent health during her former pregnancies; her family history was good, except that one uncle had died of diabetes. About the middle of June, 1885, an eczema appeared upon the neck and thighs and vulva, and she began to be troubled with great thirst. Her urine had been examined every week during her pregnancy, but it was not until June 20th that the urine was found to contain sugar. The specific gravity was 1·032, and thirty-five grains of sugar were voided in the twenty-four hours. The quantity of sugar was estimated by fermentation. A strict antidiabetic diet was enjoined, but it was not followed systematically. At times the sugar would greatly diminish, and occasionally disappear. About two weeks before labor, sugar was found; but repeated examinations since her confinement had shown it to be absent.

Case II.—G., twenty-seven years of age, contracted syphilis in October, 1883, and the symptoms from the beginning were irregular. During the first year gummata appeared on the neck, and there was a suppurative axillary adenitis. After an interval of six months the gummata reappeared, and then the urine was found to have a specific gravity of 1·028 and to contain sugar. Iodide of potassium was given in increasing doses; but the diet was not restricted. There had been no symptoms referable to the glycosuria for three years past, and his health was excellent. The quantity of urine was increased; but this might have been due to the administration of the iodide.

Case III.—Another case was reported, in which there was ulceration of gummatous masses, accompanied by sugar in the urine; but the notes of the case were imperfect.

The speaker then said that we had heard much about transient glycosuria independent of organic disease of the kidney, and in his experience it had proved to be far more common than that form of albuminuria which occurred independently of organic disease of the kidney. It was difficult to define just what was meant by the term "transient glycosuria." He knew very little about those cases in which there was a small quantity of glucose in the urine for a short time, and which disappeared without medication or restriction of the diet. The cases which had come under his observation were those in which there was some sugar in the urine without any rational symptoms of diabetes, and which only disappeared after the patient had been placed upon suitable diet. These cases were important, because they were essentially of the same nature as those which ultimately terminated in diabetes mellitus, with all of its characteristic symptoms. The cases of transient glycosuria differed from the well-established form of diabetes mellitus in that the habit of disturbed function resulting in the excretion of sugar had not been fully established.

Case I.—A young man, twenty-six years of age, in apparent good health, made application for life insurance. He had been subjected recently to severe mental strain, and his urine contained two per cent. of sugar; and repeated examinations during a period of several weeks showed from a half to two per cent. of sugar, the quantity in the morning urine being small. After refusal for life insurance he came under the speaker's care. Diet was somewhat restricted and the urine gradually diminished, until at the end of twelve months it had entirely disappeared. A gradual return to ordinary diet was speedily followed by a return of the glycosuria; but, after six months more of restricted diet, he was able to gradually return to normal diet, and has remained free from sugar in the urine for six months. During the time when sugar was present the specific gravity of the urine varied greatly, being occasionally as low as 1·005, although usually ranging from 1·020 to 1·032. In this case, there were none of the rational symptoms of diabetes, but a suspiciously large quantity of urine was voided.

Case II.—This case illustrated a type of glycosuria about which little had been said. Attention had been first called to it by Mr. Tait, of Birmingham, the glycosuria occurring at the climacteric. A woman, forty-eight years of age, passing through this period of life, began to suffer great thirst and hunger along with pruritus vulvæ. An examination of the urine showed a specific gravity of 1·038 and a considerable quantity of sugar. Many of the rational symptoms of diabetes were associated with the disturbances frequently found at the climacteric. The diet was moderately restricted and the specific gravity gradually diminished until at the end of four months the sugar and the symptoms had both disappeared. There had been no return of the glycosuria during the past fourteen months.

Case III.—A woman, fifty-four years of age, passing through the same critical period and suffering in like manner from pruritus vulvæ and great thirst, was found to have about 1·5 per cent. of sugar and to pass about eighty ounces of urine in the twenty-four hours. Similar dietetic treatment caused a permanent disappearance of the sugar at the end of three months.

Case IV.—A stout man of forty-two years, weighing three hundred and twenty pounds and accustomed to drinking large quantities of beer, was found to be passing considerable quantities of urine having a specific gravity of 1·018. An examination of the urine showed no evidence of renal disease, but sugar was present in moderate quantity. Antidiabetic diet with increased exercise caused an entire disappearance of the sugar in two months, and his weight was diminished twenty-eight pounds.

Case V.—A man, forty-eight years of age, of a highly neurotic temperament, suffered from paroxysms of intense nervousness, associated with disturbance of digestion. During these paroxysms on several occasions the urine was found to contain both albumin and sugar, which disappeared in the course of three or four days. This case, while really not in the same category as the preceding, was of interest in connection with a consideration of this subject.

Case VI.—This patient while in Paris had been under the care of Charcot, who had found albumin and sugar in the urine and had placed him upon antidiabetic diet. At the first examination made by Dr. Biggs only traces of albumin and sugar were present. The rigid diet was continued, and after three or four months the sugar disappeared, but traces of albumin were still present.

Case VII.—A man, fifty years of age, presenting none of the rational symptoms of diabetes except an excessive secretion of light-colored urine, was found to have glycosuria. The specific gravity of the urine was 1·030 to 1·032, and it contained half to one per cent. of sugar. It represented a not infrequent class of cases where uric acid was found in excess with transient glycosuria, and he believed it had also been noted in cases of diabetes mellitus.

He had been accustomed to rely upon Fehling's and the fermentation tests, and where these failed to detect sugar it was not in large enough quantity to be of clinical importance. He had occasionally employed the phenylhydrazin test, and had found it very satisfactory. A recent English writer had called attention to the presence of a substance in the urine possessing great reducing power for Fehling's solution, giving a similar reaction to that found when chloral, ether, or chloroform had been administered. He had named this substance glycoronic acid, and it was found to give the same reaction as sugar with the phenyl hydrazin test. It had occurred to him that some of the cases which we had been accustomed to look upon as cases of glycosuria were really instances of the presence of this glycoronic acid.

Dr. Austin Flint continued the discussion. He said that after trying the tests which had been mentioned he had learned to depend almost entirely upon Fehling's and the fermentation tests for qualitative work; and when Fehling's test was used in the form of two solutions, as put up by Squibb, it was entirely satisfactory. Fehling's solution should be made by taking first a certain quantity of copper sulphate, then an equal quantity of distilled water; next an equal quantity of the alkaline tartrate with an equal quantity of distilled water. On boiling this and adding a quantity of the suspected urine equal to one fourth the quantity of the mixed test and boiling again, the reaction was ordinarily developed. In some cases the reaction did not take place until the mixture had been allowed to stand for a short time. As certain reducing agents other than sugar gave this reaction, the fermentation test should be used to corroborate the results obtained in the first instance. For the performance of this test it was very convenient to make use of a little apparatus which he had devised, on account of the small quantity of urine necessary. (The apparatus was exhibited.)

It should be filled with urine and a piece of fresh Fleischmann's yeast of about the size of a small pea mixed with it. If sugar be present in any quantity, and the weather be moderately warm, a distinct stratum of carbonic dioxide would appear in the upper part of the apparatus in twenty minutes. As regarded the quantitative determination of the sugar, Fehling's method often gave inaccurate results on account of the difficulty in recognizing the exact point at which the light-blue color was all discharged. The great convenience of the well-known differential-density test had induced him to make a number of observations with regard to its accuracy. In reading the specific gravity before and after fermentation, correction should be made for temperature. The apparatus should be placed in not too high a temperature—that of a comfortable room in winter was sufficiently warm for all the purposes of the test. The difference in the readings of the urometer before and after fermentation represented the number of grains of sugar per fluid-ounce of urine. Thus: If a specific gravity of 1·030 had been reduced to 1·020, the urine contained ten grains of sugar to the fluid-ounce. In clinical work there was no particular advantage in employing a method giving greater accuracy, for the accuracy of the test was more than counterbalanced by the necessary errors caused in estimating the total quantity of urine for the twenty-four hours. Thus, if the twenty-four hours during which the urine was measured began and ended at a time when there was some urine in the bladder, there would be an error of several ounces, and in the case of diabetics this error would be even greater than in other cases on account of the large quantity of urine voided. Nor was this estimate of the accuracy of the method for clinical work merely theoretical, for he had in a number of instances made a fermentative determination by the differential-density test, and then had submitted the same specimen to independent and accurate chemical analysis by Dr. Charles A. Doremus, and the results had only varied one or two grains to the ounce, making an error of about one fifth per cent.

Turning from the question of chemical tests to the important one of "transitory glycosuria," he felt like Dr. Biggs—that it was difficult to define just what was meant by this term. There was a term applied to certain forms of diabetes which was to his mind more definitive, and also carried with it a pathology which he could at least partially understand. This term was "dietetic diabetes." He had more or less complete records of one hundred and twenty-eight cases of diabetes, including under that term all cases of glycosuria. As many of these cases were seen in consultation, the treatment and ultimate results could not always be noted. Out of sixty-seven cases which could be followed, twenty-two were at the present time living and in apparent good health; and some of them were known to be free from glycosuria. During fifteen years he had examined the urine of upward of two thousand applicants for life insurance, and out of this large number there were only five cases of glycosuria. One of these five died of hæmoptysis one or two months after the first examination; the remaining four were still living and healthy. It was probable that these four cases and the one case seen in private practice were cases of transient glycosuria. In the series of sixty-seven cases already alluded to, the dietetic treatment was followed by the best results; and, with the exception of five or six whom he regarded as "cured," the tendency to glycosuria still continued, and any great indiscretion in diet was sure to be followed by sugar in the urine. This was a warning which, if heeded, prevented any further trouble; but if neglected, resulted in the development of the usual symptoms of true diabetes mellitus. As regarded the pathology of dietetic diabetes, it was interesting to note that these patients had very commonly indulged inordinately in sweets or in bread and potatoes; or in some instances had for long periods taken a considerable quantity of champagne daily. His plan was first to estimate the quantity of sugar excreted in the twenty-four hours, so as to estimate the severity of the disease; and then, by suddenly putting the patient upon an antidiabetic diet and noting the effects, estimate the efficacy of the therapeutic measures. By this means he had been able very frequently to eliminate the sugar from the urine within twenty-four or forty-eight hours; and in one case the sugar disappeared within twenty-four hours, and had not returned during a period of five or six years. He would consider this patient well were it not that he felt convinced that the return to an absolutely unrestricted diet would cause a reappearance of the glycosuria. The case had been seen at one time by Sir William Roberts, of Manchester, who pronounced it incurable. He was allowed quite a variety in his diet, and had stated that he lived very comfortably, and did not find the restrictions in his diet at all onerous.

What did such cases teach us? The carbohydrates in our food were all converted into sugar of some kind, which we might collectively term glucose. This was carried to the liver, and there converted into glycogen, and stored up until needed. The liver ferment took from this storehouse a certain quantity needed for the nourishment of the body; and this passing through the hepatic veins was lost in the blood passing through the lungs. Hence, if a very large quantity of sugar were taken at one time, it would simply be carried into this storehouse until wanted. In cases of dietetic diabetes, Dr. Flint thought the habitual ingestion of large quantities of carbohydrates overtaxed the liver, so that a certain quantity of this was unconverted in the liver and passed into the arterial system to the kidneys and was there excreted. After a time the system, being thus burdened with sugar in the circulation, became incapable of using even the sugar which came from the liver, and which resulted from the transformation of the glycogen. As the carbohydrates were largely concerned in the production of animal heat, this condition of diabetes was accompanied by a subnormal temperature —even as low as 95·5° F. The individual lost weight and the kidneys were stimulated to excrete a large quantity of fluid, and hence the thirst experienced by such patients.

A restricted diet gave the liver needed rest, and enabled it to resume its proper functions. It was often a difficult problem to nourish these patients properly, but by giving cream, and fatty matters particularly, the hydrocarbons were made to supply material for the heat-producing processes, instead of the carbohydrates. In some cases which did not yield readily to a simple restricted diet he had been very successful by causing the patients to fast absolutely for thirty-six hours. In one case in particular a child twelve years of age was found to have a urine with a specific gravity of 1·052 and loaded with sugar, and containing also a trace of albumin. The glycosuria had been noticed ten days before, and an attempt had been made to place the child on an antidiabetic diet. The prognosis was considered very unfavorable; but the child was made to fast. Twenty ounces of urine were voided during the twenty-four hours immediately preceding the fast; during the fast, sixteen ounces; and after the fast, thirty-two ounces. This was followed by a strict antidiabetic diet. A subsequent examination of the urine showed the specific gravity to be 1·026; there was no albumin or sugar, and the urine presented no abnormities. The general condition of the patient was greatly improved.

Dr. G. B. Fowler agreed with Dr. Biggs as to the relative frequency of transient glycosuria and the so-called "physiological albuminuria," and also with the pathological views held by Dr. Flint. He had long ago ceased trying the many new tests for sugar in the urine, as Fehling's and the fermentation tests answered all practical purposes. He admitted, however, that the former sometimes gave an equivocal reaction, which made it difficult to say in such cases whether it was due to sugar or other reducing substances. In the application of the fermentation test one should be careful not to allow the fermentation to go on for too long a time, as the yeast itself would then ferment and so vitiate the result. Three or four hours, at a temperature of 70° to 80° F., was sufficient for the completion of the fermentation test.

Dr. R. W. Greene related the history of a case of glycosuria apparently due to a cause which had not yet been mentioned. The patient, a man thirty-nine years of age and apparently perfectly healthy, was suddenly seized with an attack of biliary colic. On the following day the liver began to enlarge, and about the end of the first week extended four inches and a half below the free border of the ribs. The patient was deeply jaundiced, and the urine was scanty and high-colored. This man had always been a small eater and was temperate in his habits, and gave no specific history. The first examination of the urine showed nothing abnormal; but, shortly after the appearance of the jaundice on the second day of the disease, the differential-density test showed five grains of sugar per fluidounce, and from that time to the end of the first week the quantity of sugar rapidly increased. To increase the excretion of urine the patient was treated with poultices and diuretics. Convalescence was very tedious, and, even at the end of six or seven months, there was a trace of sugar in the urine. During the last month three examinations of the urine had been made, but no sugar was found, and this result had been corroborated by examinations by two chemists. The case was interesting on account of the apparent causal relation between the glycosuria and peripheral irritation, which had not been mentioned in this discussion except in the cases where Dr. Alexander reported eczema. It was probable that the peripheral irritation of the retained bile in the liver, acting through the pneumogastric nerve, caused the great hepatic engorgement, and, secondarily, the glycosuria.

Dr. W. H. Thomson cited the histories of two brothers who had been in the army and who came to him about three years after the war with symptoms of diabetes. One brother was passing a large quantity of urine having a specific gravity of 1·040, and giving a very marked sugar reaction. He had formerly been an athlete, but now, in addition to the thirst from which he suffered, he complained of great muscular weakness. The other brother came about nine months later, having the same symptoms, with the addition of a cough. The constitutional symptoms were so well marked that an unfavorable prognosis was given in both cases, and yet both were now well. In the case of a very nervous lawyer with polyuria and five grains of sugar to the ounce of urine, neither the polyuria nor the emaciation showed any improvement during a number of months he was under observation; but the quantity of sugar was subject to curious and inexplicable variations. The patient entirely recovered. Another case was interesting on account of the patient coming for treatment, not because of polyuria, but owing to his great muscular debility and loss of sexual power. He was not given to sexual excesses. His urine had a specific gravity of 1·020, and contained no sugar, but there was an excess of urea, which continued for about five months, when diabetes mellitus developed. He ultimately recovered, and might be considered well at the present day except for a tendency to a high specific gravity of the urine.

The speaker said that, in view of the cases just narrated, he did not feel able to draw a line of demarkation between glycosuria and diabetes mellitus. He was beginning to think we must look elsewhere than in the liver for the seat of this disease; and the modern doctrines of the relation of the muscular system to the generation of animal heat seemed to him to give some hints concerning the relation of the muscular system to the nervous system, which might have some bearing on the pathology of diabetes. We found that oxidation went on for the purpose of producing animal heat in the muscular system; and we knew that when a muscle was entirely at rest the venous blood coming from it contained more carbonic acid than the blood from the right ventricle, mixed with blood from other parts of the body. From this it was evident that, although the muscles were at rest, they were generating a large amount of heat by the process of oxidation, which was independent of their function of contractility. If the muscle were separated from the nervous system by means of curare, and then flushed with arterial blood, the venou sblood coming from the muscle contained no carbonic acid, showing that oxidation only occurred while the muscle was in relation with the nervous centers. Observations regarding the heat centers in the corpus striatum showed that irritation of these centers, without any effect on the vasomotor system, resulted in a rise of temperature of from 2° to 4·5° F. in the muscles throughout the body. If the muscular system were paralyzed by curare, while artificial respiration was kept up, cooling of the body would not be followed by oxidation, showing that there were nervous centers which, by controlling this process of oxidation, regulated the production of animal heat. Remembering that the materials for oxidation were the carbohydrates, it was easy to imagine a condition in which, the heat-producing centers being impaired, there was deficient oxidation, with a throwing back upon the blood of these unused materials. He had notes of a large number of cases which he had examined with reference to the condition of the nervous system, and the condition of the reflexes in many cases of diabetes showed that there was a primary change in the muscular system. Considering the great muscular weakness and the subnormal temperature found in diabetes in the light of our knowledge of the physiological relations of the muscular and nervous systems, it would seem to be quite as probable that the cause of diabetes was to be sought for in the muscular system as in the liver.

Dr. Symonds, in closing the discussion, said that if the new substance spoken of as glycoronic acid were a true acid, it was doubtful if it would form compounds with phenyl-hydrazin and cause a reaction similar to sugar. Fehling's test was only of negative value; and in the case quoted by him, Dr. Donaldson and Dr. Tyson considered the reaction identical with that obtained with sugar, and yet no sugar was present.

Third Day—Morning Session.

Clinical Lecture at Bellevue Hospital, by Dr. W. T. Lusk.—Dr. Lusk presented the specimen of a uterus removed from an Italian woman who had died of sudden post-partum hæmorrhage after a labor of several days. The fœtus had presented by the face, and, owing to marked projection of the sacral promontory and symphysis pubis, the antero-posterior diameter was three inches and a half. There was a deep groove on both sides of the head, and a slough, with partial rupture of the uterus, from long-continued pressure.

Dr. Lusk then presented a young woman who had come to the hospital about twenty months before in a very anæmic and depressed condition. She was very emaciated at that time and complained chiefly of abdominal pain. A pyosalpinx was diagnosticated; but, on attempting to remove it by free incision through the abdominal wall, the intestines were found so matted together that it was impossible to reach the tubes. In addition to the adhesions which were everywhere present, all the abdominal viscera were studded with small bodies, a few of which were removed for microscopical examination. The report from the laboratory was that both the macroscopical and microscopical appearances were those of tubercular peritonitis. After remaining in the hospital for about six weeks, she left it very much improved. She returned last autumn, having gained considerable flesh. The pyosalpinx had caused the formation of a pelvic abscess, which was recognized just above Poupart's ligament; and this being evacuated by free incision, she made a rapid recovery, and she was now presented at the clinic in excellent condition. She had no stomach-ache or other trouble at present. Dr. Lusk said that we must either modify our opinions about the fatality of tubercular peritonitis, or we must find better means of differential diagnosis, or else we must adopt the doctrine of Mr. Tait, that mere opening of the abdominal cavity will cause the disappearance of tuberculosis, cancer, and almost every trouble. In this case he did not even tear up the adhesions, as had been so much recommended.

The patient on whom it was proposed to perform an exploratory laparotomy had been examined by others, who thought there was a fibroid on the right side of the uterus, while the lecturer was of the opinion that it was a distended tube. If his diagnosis proved correct, he intended to remove the distended tube. He advised those present who were anxious to do many Tait's operations, to operate early; otherwise the cases might sometimes get well before the operation. He had thought, until recently, that the only way to treat pyosalpinx was to remove the tube; but his faith even in this treatment had been somewhat shaken by his patient, who had a gonorrhœal pyosalpinx with a perfectly clear history, getting well without operation. Recovery was of course possible if the tube were sufficiently patulous to admit of the evacuation of the contents of the tube, either into the uterus or into the abdominal cavity. There was, of course, danger of sudden and fatal rupture of the tube; but, on the whole, he believed patience and conservatism would be rewarded. The mortality from the removal of the tubes and ovaries was almost nothing, and the ex-internes who were present would be pleased to learn that the best results in this line of surgery had been obtained right there in Bellevue Hospital. He could get even better results in the hospital than in private practice, owing to better nursing and conveniences.

The exploratory incision revealed a carcinoma of the uterus, which was so intimately adherent to the intestines that two openings in the intestines were unavoidable, and it was necessary therefore to stitch these portions of the gut to the abdominal wound. The operation could not be completed without a very extensive and troublesome dissection. After irrigating the abdominal cavity, a rubber drainage-tube was inserted and the wound packed with iodoform gauze.

Dr. Lusk closed the lecture by giving a demonstration of Mr. Tait's flap-splitting operation for the restoration of a ruptured perinæum. He said that there was no question about this operation giving substantial support for cases of moderate rupture with no great prolapse of the vaginal wall; and the operation was surprisingly easy and rapid of execution.

Miscellany.

The Mississippi Valley Medical Association.—The next annual meeting will be held in Louisville on October 9th. The secretary, Dr. E. S. McKee, of No. 57 West Seventh Street, Cincinnati, requests that the titles of papers to be read be sent to him, also printed copies of papers read at the last meeting, in order to make his collection as complete as possible.

ANSWERS TO CORRESPONDENTS.

No. 322.—As was stated in our issue for May 24th, the next meeting will be held in Washington, beginning on the second Tuesday in May, 1891.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE CÆSAREAN SECTION IN MODERATELY CONTRACTED PELVIS.

REPORT OF A CASE WITH IMPACTED SHOULDER AND CONTRACTED PELVIS; CÆSAREAN SECTION; RECOVERY. REPORT OF CRANIOTOMY CASE; RECOVERY.*

By ROBERT A. MURRAY, M.D.

The progress of obstetrics, gynæcology, and general surgery has been by very rapid strides during the past twenty-five years.

The introduction of antiseptic methods has revolutionized surgery in all its branches, yet in no part have there been such striking results in the saving of life as are exhibited in obstetrics and gynæcology.

Maternity hospitals, once almost pest-houses by the occurrence of septic diseases, have now a mortality less even than that obtained, in general, in private practice. At the Maternity Hospital, Blackwell's Island, there have been years when not a single case has been lost through sepsis, and the general mortality is less than one per cent. This happy state of affairs has been brought about by the thorough application of antiseptic principles. In a kindred branch, gynæcology, the laparotomist opens almost with perfect impunity the abdomen, and instances of operators in the United States who have performed twenty, thirty, and more laparotomies without fatal issue are not rare. With these facts in view, the results, as shown in the statistics of older operators, who did not use antiseptic precautions, and whose methods were often based on faulty pathology and lack of knowledge of the natural processes of healing, are misleading, and, instead of being true guides to determine action of a proper kind in the treatment of disease, are barriers on the other hand to true progress.

In fact, to determine the relative value of surgical procedures of any kind, and their application to individual cases, very modern statistics are those only which can be relied on; particularly is this statement true in obstetrics.

Again, in the comparison of different operations, it is all-important to bear in mind that the operation chosen may have conditions surrounding it which would cause any operation to fail, and necessarily such statistics should not be allowed to prejudice judgment in cases suitable for surgical interference. It is all-important, therefore, that the conditions and procedures obtaining success or failure should be carefully analyzed, that we may have clearly before us the resources of our art, and also the limitations of these resources if success is to be assured. With this object in view, I wish to report to-night a case of Cæsarean section, and also a case of craniotomy, both done recently, both successful; to analyze the cases, and, with a short comment upon them, to present the subject of this paper to you for discussion.

Cæsarean Section.—At 9.15 p. m., February 1, 1890, word was sent me to come immediately to Maternity Hospital, Blackwell's Island. By the slowness of messenger, I was not able to get there till about 11.30 p. m., when my house surgeon, Dr. Gilham, gave me the following history of Mary M. Murphy, who was then in labor:

Mary Murphy, aged twenty-five, single, United States, domestic, was admitted to Maternity Hospital in second pregnancy on January 11, 1890. Patient short, fifty-six inches and a half high, very small in figure, but regular; first menses when nineteen years old, regular, no miscarriages; last menses, May 1, 1889; quickened July, 1889. Family history—mother died of phthisis young. Personal history—remarkably healthy till first labor in 1886, when she gave birth to a living child, very small and delicate, which died in one year; the labor lasting from Tuesday to the Wednesday of the following week—eight days. Subsequent to this she had a severe attack of rheumatism.

Examination made by house surgeon on entrance: Physical examination—lungs and heart normal. The examination of pelvis with Baudelocque's pelvimeter gave the following measurements: Spines of ilium, 8½ inches; crests of ilium, 10 inches; D. B. ext. conjugate, 6 inches; conjugate int., 3⅝ inches; transverse contracted.

My attention was not called to the case till labor had been in slow progress for two days. Labor commenced January 30th, 9 p. m.; pains slight, not efficient; by January 31st, at 1 a. m., external os dilated size of a silver quarter dollar; as the os externum was hard and undilatable, chloral to extent of thirty grains was given in enema, which gave rest to the patient but had no effect on cervix. Hot douches and quinine were now administered, and later Barnes's dilating bags, Nos. 1 and 2, were employed, resulting in dilatation of the cervix one half.

As the patient was much exhausted, ten minims of Magendie's solution were administered and nourishment; the patient had some sleep.

Through February 1st the patient remained in about same condition, labor not progressing till the evening, at 9.15 p. m., when the waters ruptured and the left arm and hand prolapsed, the hand appearing at the vulva, and I was sent for.

On admission to the confinement-room, examination showed child very movable, head above superior strait, not engaged.

On January 30th, 9 p. m., head was in right iliac fossa, breech to the left.

January 31st.—Vertex felt over superior strait; not engaged.

February 1st, 9.15 P. M.—At the time of rupture of the waters, presentation transverse, head in left iliac fossa, breech in right, elbow at superior strait; later, left arm prolapsed and left hand at vulva, dorso-anterior. Fœtal heart 142, heard an inch to the right of the median line and three inches below the umbilicus. I found, on examination, the above described condition, with this additional that the uterus was tightly contracted on the child, the left arm of the child was cyanosed, the parts were hot, the pains frequent and agonizing, and, on rapid examination digitally, the pelvis contracted transversely, the conjugate being made out by me as three inches and five eighths diagonally, which for the vera would be about three inches and three eighths; the os was œdematous, and tightly constricted the impacted prolapsed arm. The woman's condition was poor. She was exhausted; pulse wiry and about 128; the features exhibited the suffering she had endured. Abdomen and uterus extremely tender. Fœtal heart, 145 and weak.

I hastily summoned two of my colleagues, Dr. Egbert C. Grandin and Dr. H. C. Coe, who arrived between 12 and 1

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* Read before the Section in Obstetrics and Gynæcology of the New York Academy of Medicine, March 27, 1890.

A. M., the patient meanwhile being supported by nourishment and stimulants.

Dr. Coe and Dr. Grandin, after examination, agreed with me as to the measurements, and also that an attempt at version, with probably perforation and craniotomy, would be very hazardous; also that the patient's best interests would be subserved by performing Cæsarean section.

The conditions were explained to the patient fully, and she stated that she desired earnestly a live child, and wanted the Cæsarean operation done if it would be successful in that.

As the patient's condition after fifty-two hours of labor did not warrant further delay, no other consultants could be called.

Operation.—The instruments, sponges, and silk for sutures having been boiled in two-and-a-half-per-cent. carbolic solution, and rubber tubing also treated antiseptically, and the assistants and nurses having been disinfected thoroughly, the patient was placed on the table, and the abdomen was cleansed as for laparotomy by soap and water, followed by ether and then bichloride (1 to 8,000), afterward being constantly covered with towels wrung out of warm bichloride solution (1 to 20,000); the bladder was emptied, and vulva and vagina thoroughly douched with weak bichloride solution.

At 1.32 A. M. on February 2, 1890, abdominal incision made from above the umbilicus to pubes—about six inches—when bleeding was arrested, peritonæum was opened, and abdominal incision enlarged to about nine inches and the uterus lifted out of abdomen. The intestines were held back by flat sponges and the uterus was protected by hot towels till rubber ligature was passed around the cervix. This latter was intrusted to Dr. Grandin, to be tightened at the moment incision was made into the uterus.

Unfortunately, the tubing broke, and hæmorrhage was restrained by compression of the hands till another piece of rubber tubing could be substituted; this, however, caused delay, as the bleeding was profuse.

Incision was now made in the uterus from near the fundus almost to the neck—first, by a small cut, then enlarged by scissors.

The child was lifted by the feet, and, as the uterus was held firmly by the rubber tubing, the contractions were controlled by its pressure, so that the head, not being caught, was very rapidly and easily lifted out; the membranes and placenta were detached, lifted out, and the cavity thoroughly sponged with weak bichloride solution (1 to 4,000).

Time from opening of abdomen to extraction of child and emptying of uterus, twelve minutes; from exposure of uterus, three minutes.

Ergot was administered hypodermically, and the uterus compressed by the hands of my assistant, Dr. H. C. Coe.

Twenty interrupted deep sutures of carbolized twisted silk No. 2 were now passed through all the tissues of uterus except the decidua and the incision thoroughly approximated.

Twenty-five interrupted superficial sutures of chromatized catgut were now placed in the peritonæum, drawing it from both sides of the incision so as to completely occlude and cover over the line of the deep sutures. The elastic ligature was now relaxed; there was no bleeding. The abdomen was thoroughly washed out with pure boiled hot water, which stimulated the patient, and the abdomen closed by continuous peritoneal sutures of catgut and interrupted deep sutures of silk, approximating walls perfectly; where gaping was present superficial catgut sutures completed the line.

Incision was then dressed with iodoform and bichloride gauze, with binder. Uterus was now douched with carbolized solution and antiseptic pad placed on vulva, and patient put to bed. The whole time of operation was seventy-three minutes. Delay was occasioned by the breaking of the ligature around cervix, and by the use of hot water in the peritoneal cavity to stimulate patient. The patient at end of operation was in fairly good condition, though pulse was still small and rapid (140), respiration 32. During operation hypodermics of brandy and of ether and camphor solution, with two of digitalis tincture of ten minims each, were given to support patient. Anæsthesia was first with chloroform, then continued with ether. After operation an enema of four-per-cent. saline solution with brandy was given—℥ iv of the solution to ℥ ss. of brandy.

6.30 A. M.—One ounce of Reed & Carnrick's liquid peptones was administered by enema with brandy and repeated every four hours, nothing being given by mouth but teaspoonful doses of hot water as thirst or sickness demanded.

February 2, 12 M.—Ergot was given hypodermically, ʒ ss., liquid peptones administered by mouth in teaspoonful doses, but nourishment had to be continued by rectum till February 3d. Tr. digitalis, ten minims three times a day, steadied pulse and brought it down to 100. Temperature, 100·5°; respiration, 32. Abdomen flat. Patient comfortable at 3.30 P. M.

6 P. M.—Temperature, 100°; respiration, 36; pulse, 118.

Patient slept fairly during night, but some bronchitis shakes abdomen by cough—tympanites appeared marked—and vomiting after cough. Bowels were moved and tympanites relieved by injection of soap-suds and oil of turpentine, ʒ j. Urine incontinent, but this was present before operation.

About 12 P. M.—Patient very restless, and cough disturbed so much that eight minims of Magendie were given hypodermically, which procured quiet rest till morning.

4th, A. M.—Temperature, 101·25°; pulse, 110; respiration, 36. Bowels moved by Seidlitz powders, as had been done morning previous. Nourishment, liquid peptones and peptonized milk by enema every two hours.

P. M.—Temperature, 100·4°; pulse, 116; respiration, 36. Liquid peptones given by mouth in teaspoonful doses; retching when cough, but no vomiting; abdomen softer, lochia scant, light red, no fœtor, some milk in breasts.

5th, A. M.—Temperature, 99°; pulse, 92; respiration, 28. Seidlitz powder produced movement, relieving the tympanites, which is now very slight. Abdomen soft, no pain, cough looser, no vomiting; liquid peptones and peptonized milk given by mouth in small doses; lochia scant, no fœtor; patient desires solid food.

6th.—Wound dressed; found uniting—a slight rise of temperature caused it to be observed. Temperature, 98·5°; pulse, 92; respiration, 28.

P. M.—Temperature, 99°; pulse, 90; respiration, 26. Patient comfortable. Convalescence after this normal.

Wound dressed February 8th, a few stitch-hole mural abscesses found, but wound united except in upper half, and that is only superficially open; this gradually filled by granulation.

Uterus retracted well, and in ten days was almost to brim of pelvis, but after this was slow in involution. Sutures were all removed from abdominal incision on the eighth day.

Patient transferred to convalescent ward on twentieth day, and was up in four weeks.

The Child.—The child, when extracted by feet, was quickly resuscitated by the house surgeon, who performed artificial respiration and used the hot and cold bath; it cried lustily in three minutes. The child was a male, weighed eight pounds twelve ounces, was slightly cyanosed at birth, and with exception of bronchitis, which caused respirations to be 80 for two days, then gradually got better under slight treatment and stimulation, it has developed rapidly and healthily; it has a congenital hernia into the scrotum on right side, and at this present time is thoroughly healthy.

The mother, examined a few days ago, on going out of hospital, shows uterus contracted well, no tenderness around it, abdominal wall sound.

Diameters of child's head at birth: Occipito-mental, 5¼ in.; occipito-frontal, 4⅗ in.; sub-occipito-bregmatic, 4 in.; bitemporal, 3¼ in.; biparietal, 4¼ in.; bimastoid., 3⅛ in.; cervico-bregmatic, 4 in.; fronto-mental, 3¼ in.

I will now call your attention to a case in which I performed craniotomy with great difficulty, after version and ineffectual attempts at extraction, where I should have performed Cæsarean section if the child had not seemed to be small.

Bridget B., aged twenty-two, single, domestic, of small stature and compact build; was admitted to Maternity Hospital November 1, 1889; first menses at nineteen; miscarriage, none; second pregnancy; last menses April; quickening September. Physical examination normal.

Pelvis.—Sp. il., 8½ in.; cr. il., 10 in.; d. b., 6¼ in.; conj. diam., 3¼ in.

Labor began February 8, 1889, 12.15 P. M. Patient had a small child three years ago, which died during birth, after long labor. There is no history of osseous trouble. Patient was brought to confinement-room at 1 A. M. Os one quarter dilated.

February 9th.—At 11.30 A. M., os dilating slowly; pains inefficient, though very painful. As head was above superior strait and movable, and the house surgeon thought the promontory marked and very easily reached, I was called.

At 3.30 P. M.—The os I found to be one half dilated; the head above the brim, occiput to the left, forehead to right; child movable; the conjugate was made out to be about 3¼ in.; the transverse, about 4 in. The patient was exhausted, very restless, the pains causing great agony to the patient; the abdominal wall tender.

While examining the patient, endeavoring to determine the size of the head of the child, the waters broke, and I tried version by Braxton Hicks's method, intending to let the case proceed as a breech presentation, but I found the pelvis so narrowed in the transverse diameter, and the child was so quickly compressed by the contracting uterus, that I decided to control the labor by bringing down one foot, so that, if the patient's condition demanded it, I could empty the uterus. The patient was altogether unmanageable and so exhausted that it seemed necessary to end the labor if I would save the patient or her child.

I brought down the other foot and slowly commenced extraction, pressure being made on the fundus by the house surgeon, Dr. Gilham. As the body came down the arms caught on the brim of the pelvis and were with very great difficulty liberated.

The head now became impacted at the brim, the occiput lying on the brim to the left, the chin resting on the brim to the right, and efforts to flex the head by pushing up the occiput or pulling down the chin or by pressure from above were all futile.

I tried the forceps, but could not get it past the head, and I was forced to perforate to reduce the size.

I perforated first in the occiput with Thomas's perforator, entering it at the highest point I could touch, the second cervical vertebra, and carried it into the skull; but, though considerable brain was washed out through the opening by the syringe with carbolized water, there was no sensible diminution of the head, and I still could not flex it.

I then pulled down the lower maxilla and perforated through the roof of the mouth, washed out the brain, and, introducing a crotchet inside, fixed it in the left orbit, applied the guard outside, and, locking the instrument, was able by steady traction to flex the head and deliver.

The operation took about twenty-five minutes. The child was a male; weighed six pounds six ounces without the brain.

Measurements of fœtal cranium: Bitemporal, 3¼ in.; biparietal, 4 in.; bimastoid, 3¼ in.; occipito-frontal, 4½ in.; occipito-mental, 5¼ in.; fronto-mental, 3⅞ in.; sub-occipito-bregmatic, 4 in.

Thorough antiseptic douching of the uterus and vagina was practiced and patient put to bed.

Placenta delivered and operation completed at 5.25 P. M.

The patient reacted well after the delivery; her pulse, which was 130 after operation, became normal the next day.

The lochia was normal and never became fœtid; the temperature six hours after operation became normal, and so stayed during the whole puerperal period.

In examining these cases we are first struck by the external measurements of the two pelves. These were made with the Baudelocque pelvimeter by the house surgeon on the entrance of the patient to hospital, and marked variations from the normal should be reported to the visiting surgeon on duty. If this had been done premature labor induced one month before term might have obviated the necessity of the more severe operations.

According to Scheffer,[*] from measurements of 252 dried pelves, the following deductions are made:

1. The greater the distance of iliac crests the greater the deduction in order to obtain the transverse diameter of the superior strait. The mean difference is 5·07 inches.
2. The greater the distance of the iliac spines the greater must be the deduction in order to obtain the transverse diameter of the superior strait. The mean is about 4·70 inches.
3. In non-flattened pelves the distance between the iliac crests furnishes more precise information than that between the iliac spines.
4. In flattened pelves the distances between crests and spines are of about equal value.
5. To obtain the transverse diameter we must deduct from the distances between the crests 5·2 inches in the dried, not flattened pelvis, and 4·5 inches in the flattened.
6. The deduction from distance between iliac spines is about the same in both pelves, about 4·7 inch.

The difference between the dried and living pelvis is about ·4 inch.

Dohrn[†] reminds us that if we consider as contracted pelves those where the conjugate vera is less than 3·6 inches, then:

Michaelis found 13·1 per cent. at Kiel.
Litzman found 14·9 per cent at Kiel.
Schwartz found { 20·3 per cent. at Marburg.
{ 22·0 per cent. at Göttingen.
Spiegelberg found 13·9 per cent. at Breslau.
Schroeder found 14·6 per cent. at Bonn.

Dohrn prefers digital mensuration with two fingers over all pelvimeters. On the living, to find the true conjugate,

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[*] Charpentier-Grandin, Cyc. of Obstet. and Gynæ., vol. iii, p. 92.

[†] Charpentier Cyc., iii, p. 93.

4 inches is to be deducted from the external in the normal pelvis; 3·8 inches in the uniformly contracted pelvis; 4·0 inches in the flattened pelvis.

Baudelocque deducted 3·12 inches in thin women, and 3·32 inches in fat women. Litzman, in thirty cases, found a mean difference of 3·71 inches between the internal and external conjugates, and he concludes that whenever the external conjugate in the living is less than 6·25 inches, there is contraction in the conjugata vera; and that with an external conjugate of 7·05 inches contraction will exist in 50 per cent.; between 7·05 and 8·39 inches, scarcely in 10 per cent.; above 8·39 inches, almost never.

"As for the oblique diameters, he could draw no exact conclusions."

When we examine digitally we do not obtain the conjugata vera, but the diagonal conjugate, or sacro-subpubic. To obtain the true conjugate we must deduct a trifle, dependent on the obliquity, height, and thickness of the symphysis—from 0·2 to 0·6 inch, or on an average 0·4 inch.

So, judged by these standards, we certainly had to do in both these cases with flattened pelves with narrow transverse diameters.

A capital point in all pelves where the head does not engage in the superior strait, but lies above the brim, is to introduce, under an anæsthetic, the whole hand in the pelvis to determine the transverse diameters, the general contour, and also the existence of exostoses; for in certain very marked pelvic deformities the conjugate is not contracted, and on the size of the transverse diameters depends the practicability of version, forceps, or craniotomy.

The pelvic outlets in both cases were not contracted.

A further point to be borne in mind is the size of the child's head, which was made out by palpation of abdomen and internal examination with entire hand as large, and the measurements given and the weights—eight pounds twelve ounces in the Cæsarean case, and six pounds six ounces without the brain in the craniotomy case—showed that both children were above the average.

It was the second pregnancy in both cases; one had a small, live child, after eight days' labor, the other a small, dead child, after a prolonged labor in the first confinements.

In both the pelves the conjugate was above three inches; one a shoulder presentation, arm prolapsed; the other, head presentation, unengaged. Both labors had been exhausting, one fifty-five hours and child compressed firmly, the other about twenty-four hours.

The conditions present in the patients made prompt delivery necessary; version with craniotomy or the Cæsarean section seemed to be the only operations possible.

I had perforated so often live children after version that, with the improvement shown by the statistics of the modern Cæsarean section, I determined that when opportunity offered and the patient was in good condition—the risks not seeming greater than for version and craniotomy—that, with the relative indication of moderate deformity, the patient being willing, I would endeavor to save the child instead of sacrificing it.

In the operation of version, the object is to extract a living child; therefore, if the child is dead, craniotomy should be performed unless the absolute deformity is such that no delivery is possible except by Cæsarean section or with such hazard to the maternal welfare that craniotomy is impracticable.

Now "there is not a single well-authenticated case where version followed by extraction has resulted in a full-term living child in a pelvis of two inches and seven eighths. But even with three or three and a quarter inches the result will still depend on the transverse diameter." [*]

Barnes,[†] speaking of the extreme limit of pelvic contraction justifying the operation of version, states: "My opinion is that a standard head, especially if it happen to be a female head, which is more compressible than a male one, may be drawn through a conjugate of three inches, but not with much prospect of life; and that the proper range of the operation of turning is from 3·25″ to 3·75″." Further on he adds as a corollary to this proposition that the transverse diameter must be ample or resort would finally be necessary to the perforator and craniotomy instrument; but this is to have a dead child.

Dr. Harold Williams [‡] collected one hundred and nineteen cases reported since 1858 where the forceps was applied to the child's head above the brim; of the mothers nearly forty per cent., and of the children over sixty per cent. were lost, so that the high application of the forceps to the head is as hazardous or more so than the Cæsarean section, and certainly indicates that cephalic version should not be performed with the expectation that the forceps will complete the labor in pelves flattened, with narrowed transverse diameters.

We will now look at the results of craniotomy and of Cæsarean section.

Of craniotomy it may be said that before the antiseptic era it was a very fatal operation.

Maygrier's [#] statistics are, 67 cephalotripsies in deformities from 2·53 to 1·4 inches; there were 39 recoveries and 28 deaths, a mortality of 41·79 per cent.

Stanesco and Rigaud's [‖] statistics show pelves measuring 3·9 inches and over in sacro-subpubic diameter, or at least 3·5 inches in sacro-pubic; 301 cases:

216 spontaneous labor.	Mothers,	13·88	per cent.	died.
	Infants,	15·74	“	“
21 versions....	Mothers,	23·8	“	“
	Infants,	66·6	“	“
51 forceps.....	Mothers,	35·29	“	“
	Infants,	54·90	“	“
1 craniotomy....	Mother,	0.		
3 premature labors,		33·33	“	“
7 cephalotripsies,		42·86	“	“
2 forceps, cephalotripsy, craniotomy, and version,		50·00	“	“

Pelves measuring 3·9 to 3·5 inches in sacro-subpubic diameter or from 3·5 to 3·1 inches in sacro-pubic; 215 cases:

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[*] Lusk, Principles and Pract. Midwifery, p. 470.

[†] Barnes, Obstetric Operations, p. 244.

[‡] Am. Journal of Obstetrics, January, 1889.

[#] Charpentier, Cycl. of Obstet. and Gyn., vol. iii, p. 212.

[‖] *Ibid.*, p. 127.

84 spontaneous labors.	Mothers,	9·52	per cent.	died.
	Infants,	36·90	"	"
15 versions....	Mothers,	26·66	"	"
	Infants,	80·00	"	"
60 forceps.....	Mothers,	28·33	"	"
	Infants,	31·66	"	"
6 craniotomies...	Mothers,	33·33	"	"
25 cephalotripsies.	Mothers,	32·00	"	"
17 premature labors.	Mothers,	17·66	"	"
	Infants,	47·05	"	"
8 forceps, cephalotripsy, version..	Mothers,	75·00	"	"

These show results in moderate contraction of pelvis.

Dr. W. W. Jaggard,[*] in an able article, Is Craniotomy upon the Living Fœtus Justifiable? supports very strongly the proposition that craniotomy is not only justifiable, but the proper resort in contracted pelves; but uses for his comparison with the Cæsarean operation the statistics obtained before the improved operation was done, quoting the mortality from the Cæsarean section as 66⅔ per cent. from Carl Braun.

In the eight years 1871–1878 inclusive, 82 craniotomies—63 on the presenting, 19 on the after-coming head—were performed in Carl Braun's wards; 59 mothers (72 per cent.) recovered, and 23 mothers (28 per cent.) died. The causes of death were: eclampsia, 1; peritonitis, post partum, 6; physometra sub partu, 2; ruptura uteri spontanea, 14.[†]

Of these 23 patients, 6 were in health, or at least exhibited no elevation of temperature before the operation. The mortality of the operation was accordingly 7 per cent.; the remaining 17 were seriously disabled during labor, before the performance of the craniotomy, by eclampsia, tympanites uteri, and ruptura uteri. Twenty-one per cent. of the total mortality was entirely independent of the operation.

Dr. Adolph Merkel[‡] has collected 100 craniotomies which were performed in Credé's obstetrical clinic at Leipsic during six years, 1877–1882 inclusive. The total maternal mortality was 8 per cent., or, deducting two complicated cases, the maternal mortality due to the operation was 6 per cent.

Spiegelberg[#] reports 58 craniotomies which were performed in the Breslau Clinic during the twelve years 1870–1882, with a total loss of 9 mothers (16 per cent.). Of these, 3 were infected with septic matter before the operation. The mortality of the operation is accordingly fixed at 10 per cent.

Bidder,[‖] of St. Petersburg, has performed craniotomy thirty-two times from 1873 to 1876, with success in every case.

Pinard[^] has collected 49 basiotripsies by seven operators with maternal mortality nil. Wasseige, 35 cephalotripsies, mortality 6 per cent.; Pajot performed 8 cephalotripsies in greatly contracted pelves, with six recoveries.

Carusco[*] averages the results of 364 craniotomies resulting in 6·6 per cent. mortality; 93·4 per cent. of the mothers recovered. If we look at the conditions for which destructive operations are most frequently performed, Merkel[†] in his 100 cases collected 46 performed for disproportion between fœtus and pelvic canal, occasioned by flattening of the pelvis; 36 because of symmetrically contracted pelvis; 6 when the pelvis was normal. Thorn,[‡] in 80 operations, found 16 normal pelves, but disproportion between pelvis and fœtus in 80 per cent.

Winter has collected the results of various modes of treatment in 632 contracted pelves, in which craniotomy was performed 97 times—1 in 6·5 cases. The forceps was used 98 times, while version ended labor 271 times. These results indicate that the deciding element in fixing the choice upon a destructive operation was not a pelvic contraction itself, but disproportion between fœtus and pelvis.

A further illustration of this distinction is found in the fact that both Winter and Thorn performed one fifth of their craniotomies upon the after-coming head.

Wyder[#] found a maternal mortality of 15 per cent. when craniotomy was performed in pelves whose antero-posterior diameter at the inlet was 3½+ inches; from 2¾ to 3½ inches, 10 per cent.; from 2¼ to 2¾ inches, mortality nil, the explanation being that futile efforts at delivery had been made with forceps by the obstetrician from failure to correctly estimate the existing disproportion between fœtus and mother and the pathological or physiological conditions present.

My own statistics are that in over twenty craniotomies, performed under strict antiseptic precautions, I have not had any mortality; about half of these were done to the after-coming head.

The statistics of craniotomy have mostly come from hospitals, where the most experienced operators are found, and where confidence in skill to successfully conduct labor to a conclusion not extra-hazardous to the mother is felt. The Cæsarean section, on the contrary, has been performed by many operators for the first time, without proper assistants or antiseptic precautions, and by men who had not even the modern knowledge of abdominal surgeons; so they were very much in the position of the first ovariotomists, and their mortality was accordingly. Oftentimes every other resource had been tried, and, as Dr. Harris, who has paid so much attention to this subject, aptly shows, the operations in the country saved 75 per cent., those in the cities only 25 per cent. before the introduction of antiseptics; this result being due to the fact that though labor was prolonged there was not the bruising and laceration of tissues due to ineffectual attempts at delivery, consequently no sepsis. In the modern Cæsarean operation, as improved by Sänger and other operators, Leopold[‖] gives the maternal mortality at his clinic in Dresden, during 1884 to 1888, as 8·6 per cent.—4·3 per cent. from sepsis; the fœtal mortality was 13 per cent. These operations were performed largely for pelvic contraction. Carnseo tabulates 135 cases to October 1, 1888, with maternal mortality 25·57 per cent., including the first fifty reported in Europe; fœtal mortality, 8·27 per cent. In cases of repeated Cæsarean section the mortality was nil.

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[*] Amer. Jour. Obstetrics, 1884, p. 1882.

[†] Lehrbuch der Geburt., 1881.

[‡] Archiv für Gynakologie, 1883, drittes Heft, p. 461.

[#] Lehrbuch der Geburtshülfe, 1882, Bogen 46–50, p. 756.

[‖] Archives de tocologie, August 30, 1887.

[^] Amer. System of Obstet., vol. ii, p. 87.

[*] Charpentier, Traité des accouchements, tome ii, p. 750.

[†] Amer. Jour. of Obstet., vol. ii, p. 189.

[‡] *Ibid.*

[#] *Ibid.*

[‖] Der Kaiserschnitt und seine Stellung zur künstlichen Frühgeburt, Wendung und Perforation bei engem Becken. Stuttgart, Encke, 1888.

The maternal mortality of the first fifty cases of the modern Cæsarean section performed in continental Europe was estimated at from 20 to 17·9 per cent. on the part of the mothers and 2 per cent. of the children. The revival of the operation in the United States was followed by 11 operations, with maternal mortality of $45\frac{5}{11}$ per cent. and fœtal mortality of $27\frac{3}{11}$ per cent.

Dr. Harris[*] reports the results attained by the improved Cæsarean section up to 1889, 149 operations performed in continental Europe, India, and America, saving 108 women and 136 children (the fate of 3 children not stated), or a mortality of about 71 per cent.

Of 12 women operated on in the United States for impacted transverse presentation, 8 have recovered.

Since this report of Dr. Harris, he informs me by private communication that there have been 47 others reported, the case under discussion being the 196th, with probably 5 saved out of the last 7—one on February 1st, one on the 4th saved, and one on the 5th fatal, the fatality being due to a pre-existing pneumonia.

Dr. S. P. Harris,[†] in a recent article, shows that the last five operations done in Philadelphia, from April 17, 1888, to October 8, 1889, were successful, though two of the patients were very unfavorable, and a third had cancer of the cervix, which subsequently caused her death.

There is one point which must not be forgotten, that, in cases where the Cæsarean section is delayed and sepsis has taken place, or the child is dead and macerated *in utero*, the operation may be made a Porro, and the septicized uterus removed; in craniotomy this can not be done without further risk.

Again, in rupture of the uterus before extrusion of the child, or where sepsis has supervened from long labor or ineffectual attempts at other procedures, the Cæsarean section will occasionally give a live child, and a Porro-Muller operation, as in the two recent cases of Dr. H. C. Coe's, may be successful.

Brieksy has had 11 such Porro-Muller operations without fatality.

In Germany, according to Dr. Harris,[‡] there have been 98 Sänger Cæsarean sections, with the loss of 13 women, and of the 13 some must have been regarded as almost beyond hope when operated on—a mortality of only 13 per cent.

For the operation Hofmeier considers the essentials of success to be scrupulous antisepsis, early operation, sufficient uterine sutures. Leopold holds it as essential that operator and assistant understand antisepsis and the plan of the operation. "The Cæsarean section requires but few instruments and but average technical skill. Intelligent judgment regarding the time for operating, thorough antisepsis, and the co-operation of several intelligent assistants is demanded, but these conditions on the part of the obstetrician are not difficult to fulfill. For the performance of embryotomy a knowledge and observance of antiseptic precautions are requisite equal to those demanded for the Cæsarean section. The technical skill needed to perform a difficult embryotomy is full as great as, if not greater than that which the Cæsarean operation calls into play, while the instruments employed for the destructive operation are more complicated than the simple surgical appliances needed in the conservative procedure." Couple these statements with the remarkable results of laparotomy, as shown recently in Dr. Bantock's[*] summary of his results in four hundred cases. In the first hundred, most of which were done according to the Listerian method, he lost nineteen; in the second, fourteen; in the third (in which no antiseptics were used), eight; and in the fourth, four. He uses plain water—not even boiled—for all purposes, from washing his hands to irrigating the peritoneal cavity, and discards all germicides in his dressings. Of late years he has rarely seen a case of peritonitis. He accepts the statement of Tait and Greig Smith with regard to the action of saline purgatives, but not their interpretation of the facts observed. This but confirms the statement formerly made that the fatality of any operation should be considered in reference to the surgery *per se* and to the fitness of the patient to endure the trial under the knife.

I have endeavored to state fairly in a moderate way the dangers of the two operations, the conditions which determine the preference for one or the other, and I think it may fairly be deduced that with a moderately contracted pelvis of the flattened variety or of the funnel-shaped male pelvis, where the child is living with strong, vigorous pulse and the patient not exhausted by prolonged labor, sepsis, or ineffectual efforts at delivery, and the child of normal size, or above average size, that the relative indication may be followed after proper explanation to the parents, and the Cæsarean section performed.

I think also that the near future will demonstrate that the maternal mortality has not thereby been increased much if any, and the object of the pregnant condition—the birth of a living child and the restoration of the mother to health—will be attained.

235 West Twenty-third Street.

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[*] Amer. System of Obstet., vol. ii, p. 260.

[†] Am. Jour. of the Med. Sci., February, 1890. Lessons from Cæsarean Operations in Philadelphia from 1835 to 1889.

[‡] *Ibid.*

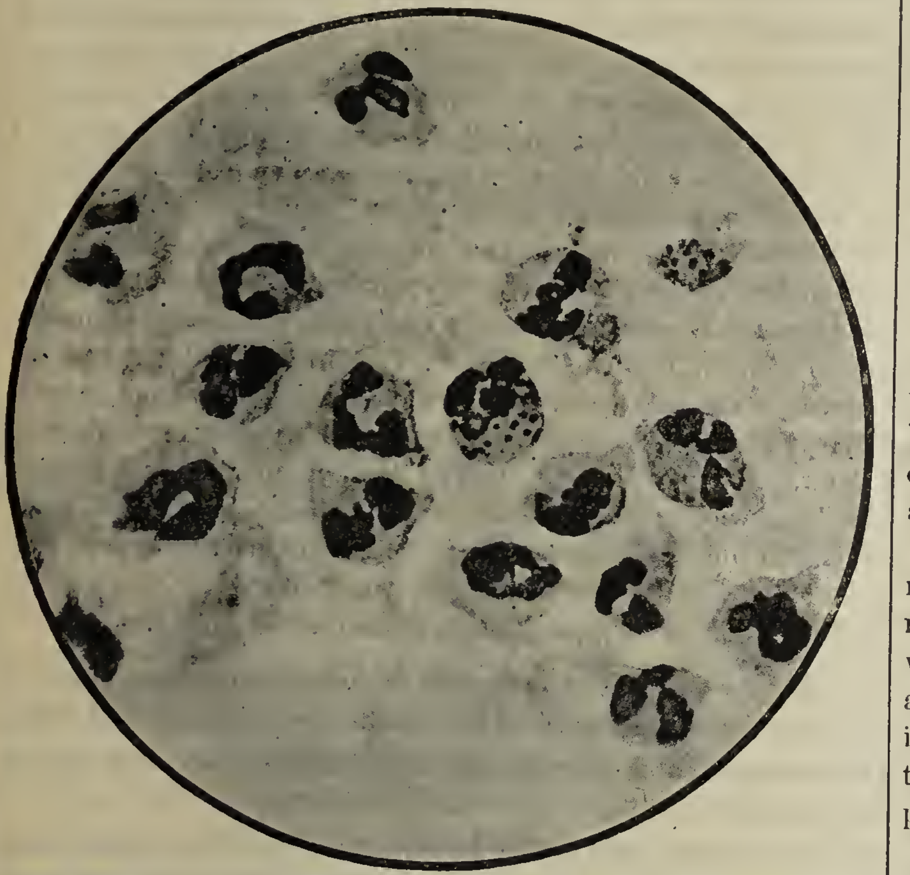
[*] Abstract from Trans. British Gynæ. Soc., November, 1889.

ARTHRITIS COMPLICATING VULVO-VAGINAL INFLAMMATION IN CHILDREN.[†]

By HENRY KOPLIK, M. D.

That form of arthritis which I wish to illustrate with a short *résumé* of two cases belongs to a class of joint affections the exact pathology of which at the present day is not entirely within the domain of the solved problems of medicine. Their counterpart first came to the notice of clinicians who were in the habit of studying catarrhal or purulent affections of the urethra in the male or the urethra and vagina in the female. I learn from Loeb (Deutsches Archiv f. klin. Med., xxxviii, 1885) that Seele and Swediaur first observed an arthritis which complicated a specific catarrh of the urethra. Hunter, Ricord, Foucart, and Brandes in turn made additional observations tending to confirm the above. Thiry, of Brussels, thought these articular affections mere incidental occurrences not in any way connected with the urethral or vaginal disease. Foucart, Brandes, Rollet, and Christensen have never met arthritis complicating catarrhal processes of a specific nature in the adult female. In children, arthritis complicating or concomitant with specific catarrh of the vagina or vulva is to-day a disease unstudied, yet, on account of its rarity, not less interesting.

[†] Read before the Section in Pædiatrics of the New York Academy of Medicine, March 13, 1890.



The gonococci in the vaginal discharge in Case II, stained with methyl violet and partially decolorized with alcohol. Zeiss appochromatic-lens projection, ocular 4, × 1,000. The author is indebted for the microphotograph to Dr. Cunningham, house physician to Mount Sinai Hospital.

Case I. *November 30, 1888.*—Female child, aged five years, has suffered in the past from measles, pertussis, and pneumonia; mother and father in good health. Two weeks ago a muco-purulent discharge became noticeable at the vulva; this discharge has persisted. About a week ago the patient complained of some uneasiness (as she termed it) in the præcordial region; pain in the right shoulder and wrist. The shoulder has continued painful since. Three days ago the mother says the patient complained of pain in the right knee, which has become more marked.

Status.—The patient is an ill-nourished, anæmic child, showing the signs of partial neglect. Upon examination, the right shoulder is very painful, but not swollen or raised in temperature. The right wrist is in the same condition. The right knee is swollen, painful, and the temperature of the joint feels raised to the touch. There is an evident effusion into the joint, a fluctuating swelling above and to either side of the ligamentum patellæ. Patient can walk only with the greatest difficulty. There is a thick, greenish-yellow vaginal and vulvar discharge. Heart negative. Temperature 102° in the rectum. There is some loss of appetite, and malaise.

December 3d.—The swelling of the knee has somewhat subsided; the pain in the shoulder has disappeared. The knee is still painful. Discharge from the vulva persists, with ardor urinæ.

The patient passed from my observation when the joint trouble had subsided so as to allow her to walk with comfort, probably dissatisfied at the futility of treatment directed to the vaginal discharge.

An examination of the discharge from the vulva and scrapings from the vagina (this latter in order to obtain the pus) showed, as above, a thick, viscid, mucoid discharge, greenish-yellow in tint, containing pus cells, vaginal epithelium, with cocci and diplococci. In the cell body of the pus cells the diplococci were present and characteristic. These organisms answered in every way, as far as staining could show, to the descriptions of the gonococcus of Neisser.

Case II. *March 25, 1889.*—Female child, aged three years and a half. Three weeks ago the guardian of the little patient noticed a yellow discharge from the vulva; this discharge has persisted since; there has been loss of appetite and failing health. A week ago the guardian noticed that there were swelling, redness, and pain in the right ankle. These symptoms became so marked that at the time of consultation the little one was unable to walk and had to be carried. No history of a traumatism.

Status.—The child is anæmic, of delicate build, no signs of rhachitis, no syphilis, no lung trouble or glandular enlargements, no fever. There is a muco-purulent discharge from the vulva, with crusty formations upon the external parts. The right ankle is swollen and the skin over the joint is tense, and there is a red blush over the joint. There is some rise in the external temperature of the joint. Manipulation of the joint is very painful. There are no signs of fluid in the joint.

March 27th.—Vulvar discharge much the same. The ankle joint is not so red or painful. Now, inasmuch as the patient bears manipulation, it can be seen that in both ankles there is quite a degree of laxity, or rather weakness, of the ligaments; but later on, when the affected joint had recovered from its acute affection, this laxity of the ligaments of the ankle joint appeared not to seriously incommode the patient. With a re-enforced shoe she showed no signs of any congenital weaknes. of the joint.

April 1st.—Joint still stiff. Patient walks, though stiffly. Discharge from the vagina and vulva still present, though of diminished intensity.

The joint finally made such a complete recovery that neither the guardian nor myself could have believed that any trouble had existed had we not observed the affection from the outset. In about the fourth week, however, of my treatment of the affection the little patient, through some carelessness, contracted a severe blennorrhœal conjunctivitis in both eyes, and, fearing lest the integrity of the patient's eyesight would be compromised, I advised immediate transfer to an eye infirmary, which was done. Here I lost sight of my case. Examination of the genital discharge in this as in the first case revealed diplococci singly and in pairs and groups in the mucus and in the pus cells. They answered in stain and grouping to the descriptions of the gonococcus of Neisser.

I regret that in both cases I failed to make serum cultures, and in this respect I fully appreciate that the report must be imperfect. Inasmuch as the cases occurred in dispensary practice, I did not, for very patent reasons, attempt so serious a procedure as the aspiration of joint fluid.

In the two cases detailed above every one will admit that the genital discharge was specific. The joint complications are unique, however, and I have searched the literature, but find no similar cases recorded. There are two authors—Widmark (Jahrb. f. Kinderheilk., 1886, p. 157) and A. Jacobi, of New York (Med. Rec., vol. xxxiv, p. 23)—both of whom have observed arthritis in children complicating conjunctivitis possibly of a gonorrhœal character, but, although the later literature teems with advices and notices upon the specific nature of a percentage of cases of vulvo-vaginal inflammation in children (Fraenkel, Sanger, Spaeth, Pott, Prochownik, Israel), none of these men have met arthritis as a complication. Granted that extraneous ætiological factors have been carefully excluded in these cases and that the possibility of a long latent tuberculosis unobserved has been duly considered, how shall we classify two cases as recorded above? We must bring them into that rubric which contains all those joint affections complicating specific catarrh and consider them according to our present knowledge on this subject.

Since Bumm demonstrated the truth of the discovery by Neisser of a specific micro-organism as the cause of gonorrhœa, the complications of this affection have been subjected to renewed speculation and study. Very early in the history of these affections it was naturally concluded that this organism must be held as the direct cause of the complicating diseases. But there are insurmountable obstacles in the path of such an assumption. To-day the only well-established fact in the mode of growth of the gonococcus of Neisser seems to be that it propagates itself only by means of epithelial surfaces. To conclude that the arthritis met in some forms of gonorrhœa is due to the direct influence of these micro-organisms (metastatic), though very simple, remains to-day among the unproved theses of modern bacteriology. The gonococcus does not circulate in the blood. There are those, like Brieger and Ehrlich, both of undoubted ability, who, after careful study, deny the presence of the gonococcus in joint effusions complicating gonorrhœa, either of the urethra or vagina. Petrone and Kammerer (Ctrlbl. für Chir., 1884, p. 48) relate cases in which they have discovered the diplococcus in joint effusions in both the male and female. Kammerer questions the investigations of Brieger and Ehrlich as to the presence of the micro-organism of Neisser in joint effusions, and states that the joint fluids should be examined very soon after infection of the urethra—three to five days. If this be done, they can be easily demonstrated. It is an ungrateful task to criticise the work of others, but in a true spirit of investigation I beg to say that I have carefully looked into the work of Kammerer in the two cases above mentioned, and find only the statement of the presence of diplococci; these were found simply free, not in the pus cells, and there were no cultures made. Might they not have been diplococci of another kind. entirely differing from the gonorrhœal micro-organism? For the present, Brieger, Ehrlich, Baumgarten, and Sänger support the ground that the gonococcus has not as yet been studied and found in the blood or lymph channels, nor in the above-mentioned joint effusions. How are we then to regard these joint troubles? The only solution is that given by Bumm and Baumgarten, who would regard them as the result of a mixed pyogenic infection, thus explaining to some extent why arthritis does not complicate every case of specific catarrh.

In connection with the subject of rheumatoid affections and mixed infections in infants who are suffering from any disease due to the influences of the gonococcus or the micro-organisms of erysipelas (blennorrhœal ophthalmia or erysipelas), I desire to add the following: *

A female infant, three months and a half old, nursing at the breast, was vaccinated on the left arm. The vaccine pustule, in active suppuration, was opened by a traumatism. Necrosis of tissue to an extreme degree followed, with a very red and angry-looking areola spreading toward the elbow on the extensor side of the arm, and with fever. On the day after the first visit the pustule was still suppurating, but the ulcer was cleaner. The child had very marked swelling of the left knee; it was twice as large as its fellow, red, and very painful to the touch, and when movements of the joint were made there seemed to be some effusion. The mother had noticed the swelling during the previous night. The knee was put up in an immobilizing splint by Dr. W. W. Van Arsdale, which was removed after two days, as the knee was smaller than at first. The joint was still painful, red, and of heightened temperature; the vaccine pustule was healing kindly, and the blush around its base was subsiding. The knee symptoms improved from this time onward, together with the vaccine pustule and ulceration; but at the present time (a week afterward) the joint is still painful. This patient made a complete recovery.

Here we have a typical case of joint trouble due in great probability to infection of the structures of the joint by the micro-organisms playing the active destructive rôle about the vaccine lesion.

It certainly will not be encroaching too much upon your indulgence if I call attention to the excellent researches of Gerhardt (Charité Annalen, vol. xiv) upon the rheumatoid affections of the joints. In this essay five cases of arthritis are mentioned occurring in girls from eighteen to twenty-seven years of age, at the time suffering from gonorrhœa. The knee, hand, elbow, and shoulder were most frequently affected. In fact, the so-called gonorrhœal rheumatism affects a predilection for the knee joint that is most striking. Other peculiarities of this malady are its resistance to treatment, the freedom of the heart from any complication, absence of fever or only a low fever, and the uselessness of ordinary remedies. There are four forms of this disease—the bilateral knee dropsy; the subacute affection of many joints; the monarticular form, which, in very rare cases, results in suppuration (Koenig and Gerhardt); and, lastly, that form which can in no way be distinguished from acute articular rheumatism except in the demonstration of gonococci. (Gerhardt does not specify whether the gonococci should be demonstrated in the joint or urethra.) In the cases which I have presented, it may be said that the joint affections, though causing painful symptoms, were in no way formidable or intractable; the larger joints were affected, and the little patients, under rest with ordinary remedies, recovered within a reasonably short space of

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* Read before the Medical Society of the County of New York, May 28, 1888.

time—two weeks in one case. In this respect my cases differed from adult cases, in which the disease may be prolonged.

The frequency of this complication of vulvar inflammation must be rare, as seen from the fact that the above cases were met in a material of one hundred children, all below the age of ten years, who were suffering from vulvo-vaginal inflammation. The parts being very small in these patients, it is impossible to give reliable data as to the involvement of the urethra. In concluding, I beg to call attention to the fact that I have avoided as much as possible the term "gonorrhœal rheumatism," inasmuch as I believe that, though it so happens that most of these forms of arthritis have been described as complicating specific catarrh of the genital passages, yet this arthritis may complicate other severe suppurations, as illustrated by the case of the infant at the breast, and that Bumm, in attributing this disease to a pyogenic infection independent of any immediate connection with the gonococcus, has probably taken a step in advance toward elucidating the pathology of these joint affections.

PURULENT OPHTHALMIA:

OBSERVATIONS ON THE ÆTIOLOGY AND TREATMENT OF THE DISEASE.*

By JOSEPH A. ANDREWS, M. D.,
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Four years ago I had the privilege of reading before this society a paper in which I related my experience with a two-per-cent. solution of nitrate of silver in the treatment of purulent ophthalmia. During the years which have passed since then I have maintained a close interest in this subject, and my remarks this evening mainly embody the results obtained in the further study of purulent ophthalmia in regard to the cause and treatment of the disease.

Observations on the Gonococcus.—Purulent ophthalmia is almost always, in the first instance, the result of inoculation of the eye with an abnormal discharge from the genitals. In the first place, I endeavored to ascertain the frequency with which the diplococcus of Neisser, which has been alleged to be the pathological principle of urethral gonorrhœa, was found in the secretion taken from the urethra of gonorrhoic patients. In the second place, the same bacterium was searched for in all of the cases of purulent ophthalmia seen by me during the past three years. In a number of the cases of purulent ophthalmia, cultures were made from the secretion taken from the eyes of subjects of the disease.

Résumé of Some of the More Recent Observations.—Welander (Vierteljahresschrift f. Derm. u. Syph., 1884, p. 178) found Neisser's gonococcus in all the cases in which he looked for it among one hundred and twenty-nine cases of acute and fifteen cases of chronic urethral blennorrhœa; even cases of eight to sixteen months' duration were not excepted. (Observations made previous to Roux's method.)

Oberländer (Ueber die praktische Bedeutung der Gonococcus, Berlin, 1888) concludes, from observations collected from literature, that purulent discharge may occur from the genitals from infection with other pathogenic bacteria than the gonococcus—*i. e.*, Bockhart professed to have seen fifteen cases of pseudo-gonorrhœa (pseudo-gonococcus) from which the gonococcus was absent. During a period of ten years Neisser examined every case of urethritis occurring in his private and hospital practice for the gonococcus, and only in two cases was acute purulent urethritis apparently due to infection, and in which there was a question as to the presence of gonococci, but which were free from gonococci. Steinschneider and Galewsky examined the secretion taken from the deep urethra of eighty-six persons, of whom fifty-five had acute and fifteen chronic gonorrhœa, thirteen cases in which there never had been gonorrhœa, and three cases in which there had been—a long time before, once or oftener—gonorrhœa, but which were without the slightest discharge at the time of the examination. The staining was done according to the Gram-Roux method.

In the cases in which there was no acute or chronic gonorrhœa they found among the brown-colored anatomical elements only a few bacteria, especially few diplococci—the diplococci being colored dark-brown or deep-black. When gonorrhœa was present, the groups or isolated pairs of gonococci had the same color as the cells, and were decolorized when treated according to the Gram-Roux method. The diplococci which retained Gram's stain never showed the familiar arrangement of the gonococci, so that, if they lay, as was seldom seen, in groups, then their arrangement was so irregular and so different that any mistaking of the one for the other was entirely excluded. Those groups of diplococci which retained Gram's stain were found most frequently in preparations from chronic gonorrhœa. In these investigations the urethra was first washed out with a solution of nitrate of silver (1 to 1,000), followed by the use of water to remove the albuminate of silver from the surface of the mucous membrane. But when the secretion was taken from the fossa navicularis without previously washing out the urethra with the solution of nitrate of silver (a procedure omitted by Lustgarten and Mandaberg in their investigations, which had the same object in view), then there were large numbers of bacteria, which appeared of a blackish color on the light-brown ground (Gram's method).

Steinschneider and Galewsky made cultures on agar-agar, at a temperature of 35° C., with the secretion taken from the healthy urethra, also from such urethræ as were the seat of inflammation. They isolated three different kinds of growths of diplococci, all of which retained the Gram stain after decolorizing with alcohol. Next to the gonococcus, the diplococcus most frequently present was the one which, on the nutrient surface, appears as a milk-white growth. This diplococcus retains the stain after the use of the Gram-Roux method. Next came the orange-yellow diplococcus (*Diplococcus subflavus* of Bumm), which is morphologically identical with the gonococcus, but which differs from it in its behavior to the Gram stain, which it retains after treatment with alcohol. Among some of the more recent writers, Legrain, Aubert, Schütz, and Hause have given proof of the diagnostic value of the presence of the gonococcus in urethral secretions.

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* Read before the Medical Society of the County of New York, March 24, 1890.

Ottava (Pester medico-chirurg. Presse, 1888, No. 20; Ueber die Bedeutung der Gonococcus bei der Diagnosis der Ophthalmoblennorrhœa) cites three cases which he attempts to make the basis for favoring the diagnostic and pathological import of the presence of the gonococcus. The first case was one of membranous conjunctivitis, resulting from infection from chronic gonorrhœa (? A). In the secretion he found diplococci in abundance which precisely resembled the gonococcus. The disease healed in four days under applications of boric acid. The second case was one of a high degree of conjunctivitis in a school-teacher with leucorrhœa. Typical gonococci (? A) were found in groups and imbedded in cells in secretions from the vagina and the eye. Recovery took place in a few days; therefore, says Ottava, it was not blennorrhœa. In the third case (in a boy) there was intense conjunctivitis with well-marked gonococci. Ottava made cultures (he does not describe the method) showing the "characteristic shape of gonococci," but inoculation of another's eye failed. Ottava concludes that the "gonococci cultivated are not virulent." Ottava does not say whether he tried decolorizing with alcohol after Gram's method, and the intracellular presence of diplococci is not satisfactorily dealt with. There are many similar claims made in literature for the finding of the diplococcus of Neisser in mild inflammations of the conjunctiva, also in the normal urethra, but the evidence supporting the assertion is not convincing. I would not accept Ottava's statements without more substantial proof than he has given.

Troner examined the secretion in ninety-two cases of ophthalmia in the new-born; in sixty-three cases he found gonococci; in twenty-nine cases they appeared to be absent; hence he concluded that there were two distinct forms of purulent ophthalmia.

Neisser never saw a case of conjunctivitis corresponding in its clinical picture to that of gonorrhœal inflammation of a mucous membrane from which the gonococcus was absent. This is an important observation. My own experience shows that while there is undoubtedly a purulent conjunctivitis in infants, occurring two or three months after birth, nearly always of a mild type, and yielding to simple treatment, in the secretion from which the gonococcus can not be demonstrated, there are also cases of true gonorrhœal ophthalmia in the adult of a comparatively mild type, but in which the gonococcus is surely demonstrable. Hence, in some rare instances, the presence or absence of the gonococcus, and not the clinical picture, must decide the diagnosis.

Bumm succeeded in obtaining (1887) a pure culture of the gonococcus upon blood serum of the wolf and sheep, especially if to the coagulated serum a little serum from human blood were added. Bumm inoculated two females. In one a pure culture obtained upon human blood serum and in the other a pure culture grown upon animal blood serum was applied to the urethra. In both instances a typical gonorrhœa was developed.

In a paper read before the New York Academy of Medicine, June 18, 1885 (see New York Medical Journal, October 24 and 31, 1885), I mentioned that I had successfully inoculated the eye of a patient with the seventh generation of a culture of the gonococcus on ox-blood serum. At that time the Gram-Roux method was not known, and I am therefore unable to say what might have been the behavior of the growth which I made when treated according to this method; but the inflammation produced corresponded in every particular to the clinical picture of gonorrhœal ophthalmia. Bokai, Bockhart, and Krause also profess to have been successful in reproducing gonorrhœa by inoculation. Koch * succeeded in cultivating the gonococcus on agar-agar containing glycerin, but he made no further test by inoculation.

The following table shows the number of instances in which the gonococcus was found in the cases in which I have personally examined the secretion:

	No. of cases examined.	No. of cases in which gonococcus was found.
Acute urethral gonorrhœa (secretion examined before treatment was begun)	17	17
Chronic urethral gonorrhœa (all had been treated, but were not under treatment when the secretion was examined)	144	108
Purulent ophthalmia in adults	72	72
Purulent ophthalmia in new-born	122	122
Purulent ophthalmia in infants between two and three months old	9	3
Total	364	322

Table showing Results of Culture Experiments on Ox-blood Serum, or Agar-Agar with Glycerin, 5 per cent., at a Temperature of 36° C.

	No. of cases examined.
Acute urethral gonorrhœa	6
Chronic urethral gonorrhœa	9
Purulent ophthalmia in adults	7
Purulent ophthalmia in new-born	15
Total	37

In various specimens, streptococci, bacilli, and *Staphylococcus pyogenes aureus* were cultivated from the secretions, but no further plants were made of these bacteria, transfers being made of diplococci only, as it was my aim to determine whether the diplococci cultivated could be distinguished morphologically, and in respect to their reaction to staining agents, from the diplococcus of Neisser.

The diplococcus most constant showed itself on the nutrient surface as a round patch with thick, smooth edges, of a dirty-white color, growing rapidly, and quickly assuming a yellowish tint and retaining the stain after the Gram-Roux method.

The diplococcus next in point of frequency appeared as a thin film of no definite shape, with irregular outline, growing very slowly, and resembling in every particular the gonococcus, differing from the latter only in that it retained the stain. The gonococcus accordingly was not cultivated.

The staining method consisted in immersing the specimens for twenty minutes in the aniline gentian-violet solution, the excess of color being then removed with distilled water; the specimen was next immersed for five minutes in the iodine iodide-of-potassium solution, after which the washing was done as before. The specimen was now examined, then decolorized in absolute alcohol, and again examined.

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* Verhandlungen d. deutschen dermatologischen Gesellschaft, Prag, 1889, p. 146.

When gonorrhœal secretion was examined, the greatest reliance was placed on the finding of the diplococcus in the protoplasm of the pus cells around the nuclei, the diplococci losing their stain when decolorized in alcohol. When, after being decolorized in alcohol, the diplococci are again stained with Bismarck brown, they have a much lighter color than other diplococci (not gonococci) in the specimen which retained the original stain.

In the case of the specimens of cultures examined microscopically, the chief point in distinguishing between diplococci which were and which were not gonococci was not so much the grouping as the reaction to the staining agents. If the diplococci retained the stain after being treated with absolute alcohol, the gonococcus was excluded. I want to mention in this connection that Steinschneider and Galewsky have recently cultivated on agar-agar a lemon-yellow colored growth from gonorrhœal secretion, which lost the stain when treated according to the Gram-Roux method. This growth was observed only once out of eighty-six cases examined, and they thought that it was perhaps due to contamination.

The question as it now stands is substantially as follows: A large number of observers are agreed as to the very constant presence of the gonococcus in gonorrhœal secretion, which would indicate that this micrococcus does hold an ætiological relation to gonorrhœal inflammation. The stamp of absolute proof that the gonococcus supplies the specific virus for gonorrhœal inflammation would be furnished by reproduction of the disease by inoculation with a pure culture of the gonococcus. It must be admitted that the experiments in this direction so far recorded have not given very definite results.

The observations of Eklund, Welander, Bockart, Bumm, Bergmann, and others, relative to the finding of the gonococcus in inflamed joints and other parts of the body, need not be discussed here, and I have had no experience in this connection; but it is pertinent to the question under discussion to refer to Bumm's statement that pure gonorrhœal pus can be injected into the subcutaneous cellular tissue of animals without causing reaction, and that, if after twenty-four hours an incision is made and some of the pus removed is examined, it will be found that the cells are still in good condition, but that the cocci have disappeared. The point which I want to mention in this connection is that gonorrhœal pus contains, among other bacteria, the *Staphylococcus pyogenes aureus.*

Treatment.—The patient should be put to bed. As purulent ophthalmia is nearly always produced by infection derived from the genitals, the nurse should be told of the great danger of conveying any of the discharge from the patient's eye to her own eyes; she should wear protective spectacles. The so-called driving glasses are very good for this purpose.

If one eye only is affected, the healthy eye must be protected. The best protective covering for the healthy eye is one which consists of a piece of rubber adhesive plaster, about four inches and a half square, with an old-fashioned deep watch-glass fastened in a hole in the center, through which the patient can see. The adhesive plaster is then fixed to the nose, forehead, and cheek, its lower and outer angle being left open for ventilation (Buller).

Begin at once the application of cold, which must be uninterrupted night and day. Two nurses, one for the day and one for night, are indispensable. The cold is best applied by means of pledgets of linen, two inches square, kept cold on a block of ice at the bedside, and laid on the affected eye, changing the linen before it is warm. *These pledgets must never be reapplied* to the block of ice, but be burned at once. Wash the eye every few minutes with a saturated solution of boric acid, the frequency of the washing to be regulated by the amount of the discharge, the chief object being to keep the eye as free from discharge as possible. This solution should be prepared with boiling water from the kettle to insure its being clean, and, when it is cold and in use, the nurse should receive strict injunctions to avoid contaminating the solution with the secretion from the eyes, as by dipping in her fingers to test the temperature. I am very much in favor of washing the eye by means of a fountain syringe, with a rubber hose attached, just high enough above the bed to give the flow sufficient force to play in a gentle stream over as much of the conjunctiva as can be exposed. I would allow the stream to play on the eye for two or three minutes at a time.

This treatment suffices for mild cases of purulent ophthalmia, in which, in my judgment, nitrate of silver should not be used. If the swelling of the lids is very conspicuous, I would cut the outer canthus, together with the canthal ligament, to relieve the pressure on the eyeball, and at the same time to provoke a certain amount of depletion, which is beneficial.

I would instill a two-per-cent. solution of nitrate of silver between the lids (by dropping the solution into the eye, the movements of the eyelids distribute it better than would be the case if the solution was brushed over the conjunctiva) immediately after the washing, and watch the result carefully, and, if the discharge is not profuse, I would not repeat the instillation on that day; should, however, the discharge and swelling of the conjunctiva increase, I should take this as a signal for using the silver more frequently, say two or three times a day, according to the indications. If the chemosis should not show a disposition to subside, and the cornea appeared hazy, I should instill atropine (gr. ij–℥ j) three times a day, and, instead of instilling the two-per-cent. solution into the eye, paint some of it over the chemotic conjunctiva in order to avoid injury of the cornea. I often give patients a dose of morphine to produce sleep when they are restless and much disturbed by the washing of the eye. It is of great importance that the patient should have plain but nutritious food.

I am quite sure that the preservation of the eye depends not alone on the intelligent use of the nitrate of silver, but on the closest attention to every detail of the treatment which I have outlined.

We test the germicidal value of certain chemical agents in our laboratories, the results of which are of inestimable value to science. These experiments have impressed upon us the great importance of cleanliness in the treatment of wounds. They teach us the indubitable fact that everything that touches a healthy wound must be free from living pathogenic or pyogenic bacteria. But we are not so clearly informed in the matter of the safest means to adopt to destroy these bacteria when they are already present in the tissues. It has always been known that there was in the body some power of adjustment of forces by which disease was limited or disposed of. To-day we associate pathogenic bacteria with the cause of disease, and we simply take the position that there is in the body some sort of bacteria-destroying agency which we are unable to define. Therefore, in our choice of a germicide, we should select such a one as destroys the pathogenic germs in the shortest time possible with the least harm to the tissues, not alone as proved by the behavior of the germicide in pure cultures of the pathogenic bacteria, but with due regard to the effect of the same agent upon the same bacteria thriving in the wound and its secretions, and the effect of these secretions on the germicide itself. These are the questions which led me to test the effect of nitrate of silver and bichloride of mercury as germicides in contact with gonorrhœal pus, and the result showed that a two-per-cent. solution of nitrate of silver destroyed the infective properties of the pus (as tested by applying the same to a human eye) in from six to ten seconds. (In my paper in the N. Y. Medical Journal, September 25, 1886, the time given is six to ten minutes, but this is a misprint; it should read *seconds.*) Under the belief that the epithelial cells were early invaded by the gonococcus — were, in fact, the chief seat of these bacteria—I employed the two-per-cent. solution of nitrate of silver with the view of ascertaining its germicidal properties and its action on the epithelial cells, the effect of the eschar produced by the silver being to mechanically carry off the epithelial cells, together with the gonococci which had invaded them. I kept in view, however, the clinical fact (which modern text-books take no notice of), first mentioned by Mackenzie and elaborated by von Graefe, that the silver is not well borne when there is very little inflammation, a fact which von Graefe explained by saying that the epithelium is very slowly regenerated when such is the case, whereas, when there is much inflammatory swelling of the conjunctiva, the epithelium is very rapidly regenerated. It was these facts which influenced me to be careful in the use of the silver in the early stage of the disease and bolder if the inflammation progressed. Forty years ago Mackenzie treated purulent ophthalmia by washing the eyes with a solution of bichloride of mercury (1 to 4,000 or 1 to 60,000) three or four times daily, and brushed a two-per-cent. solution of nitrate of silver over the conjunctiva every six or eight hours. Therefore, in one sense, the treatment of purulent ophthalmia with repeated instillations of a two-per-cent. solution of silver is not a novelty. But Mackenzie had, of course, no thought of using silver for its germicidal properties; and indeed the weak solutions were laid aside for stronger ones until the mitigated or solid stick of silver had supplanted these. Now, in the light of modern bacteriological investigation, we recognize indications in the treatment of purulent ophthalmia quite different from those which Mackenzie had in view.

According to these considerations the ideal germicide would, of course, be such a one as would, while destroying pathogenic bacteria, at the same time, instead of irritating the tissues, aid them in their inherent quality of resisting the incursions of these mischievous agents. Such a germicide is not yet known; but, in this connection, one can not help being impressed by the bacteriological investigations of Nutall, Buchner, Nissen, Lubarsch, and Prudden relative to the germicidal action of blood serum, etc., and the probable influence of these and kindred investigations on the selection of a germicide in the future.

Bichloride of Mercury.—The use of bichloride of mercury is much affected by various conditions—such as the temperature and the presence of albumin. It has been shown that bacteria in the presence of albumin have the power to reduce corrosive sublimate to calomel, and even to metallic mercury, thereby destroying its antiseptic properties. The difficulty of estimating the antiseptic value of bichloride of mercury is shown in the discrepancies which may arise between the observations of various experimenters. Some have estimated that 1 part in 5,000 to 1 part in 15,000 was the proper strength for a germicide for a wound; others estimate 1 part in 175 to 1 part in 225, or even 1 in 100; the stronger solutions were required by those whose tests were made with albuminoids, while the weaker ones were found sufficiently strong by those who used solutions free from albuminoids.

Carbolic acid is not open to these objections. It has the valuable property of being a uniformly active antiseptic under almost all conditions: in the presence of albumin, in acid and alkaline solutions, against either aerobious or anaerobious bacteria. It is inactive only in fatty oils, in alcohol, and in resins; but in practice even some of these solutions are active, since the carbolic acid is absorbed or dissolved from such solutions when they are employed (Behring).

There is a wide difference of opinion about the value of iodoform as an antiseptic. It appears that iodoform must first be decomposed before it can exert any action on the growth of bacteria. On wound surfaces, with pus and ill-smelling secretions—where, in other words, active chemical changes are going on—iodoform is decomposed into hydriodic acid and iodine, and these products appear to remove the offensive smell of the pus and limit the growth of bacteria. In my experience, the micro-organisms of gonorrhœal pus do not appear to possess this reducing power, which may account for my ill-success with this agent in the treatment of purulent ophthalmia.

In my experience, the intelligent use of a two-per-cent. solution of nitrate of silver yields the best results in the treatment of purulent ophthalmia. A solution of carbolic acid (1 to 1,000) for washing the eye is also regarded as a useful adjuvant. But a saturated solution of boric acid, if prepared as directed above, is antiseptic and astringent, and practically preferable to either corrosive sublimate or carbolic acid.

The active symptoms may last for three weeks. During this period the cornea must be closely watched. Remember this very important fact—viz., the cornea is not necessarily out of danger because the more acute inflammatory symptoms of the disease have subsided. Perforation of the cornea and loss of the eye may occur in some exceptional cases after the disease seems far advanced toward recovery. I never have had occasion to use the nitrate of silver after the fourth week of the disease. Generally before this the disease has passed into a condition when active remedies actually retard the recovery. I am in the habit, at this period, of keeping the eye clean with a three-per-cent. solution of boric acid and of applying vaseline between the eyelids.

Table showing Number of Cases treated, together with the Results obtained by the Author with a Two-per-cent. Solution of Nitrate of Silver.

	Purulent conjunctivitis in adults.	Purulent conjunctivitis in new-born.	Purulent conjunctivitis in infants not under three months.
No. of cases treated	66	85	2
No. of cases in which inflammation was severe.	63	57	2
No. of cases in which inflammation was mild	3	28	
No. of cases in which one eye only was affected.	25	......	1
No. of cases in which both eyes were affected	41	85	1
When both eyes were affected:			
Cornea of one eye involved	32	40	
Cornea of both eyes involved	7	5	
No. of cases with useful vision in affected eye	36	42	2
No. of cases with total loss of sight:			
Both eyes	0	0	
One eye	5	3	
No. of cases in which cornea was involved before treatment was begun	21	18	
No. of cases in which cornea was involved after treatment was begun	3	1	

Remarks.—I apprehend, from the correspondence which I have had with some of my colleagues, that I have been very much misunderstood as to the exact amount of importance I attach to the instillations of nitrate of silver in purulent ophthalmia; for instance, I have been asked by a distinguished physician of this city whether it was often enough to instill a two-per-cent. solution of nitrate of silver into the eye every half-hour. This and some other communications make it evident that I have been understood as stating that the two-per-cent. solution of silver could be used with a liberal hand and, under all circumstances, with perfect safety in purulent ophthalmia. I have therefore spoken at some length on the treatment with nitrate of silver, in order to explain my exact position with regard to it.

I have selected the two-per-cent. solution because weaker solutions were found to be inefficient, and the stronger ones no more efficient, while the use of the latter was attended with greater risk. When I recommended (N. Y. Med. Jour., Oct. 24 and 31, 1885) the application to the conjunctiva, during the active stage of the disease, of an ointment of vaseline and six per cent. of boric acid, or two per cent. of carbolic acid, it was under the impression that it would form an antiseptic covering for the conjunctival surfaces, which might retard the multiplication of the micro-organisms in the disease; but I found the nurse was trusting too much to the ointment and neglecting the washing of the eye. I therefore abandoned its use in the active stage of the disease, and employ it now only after the more acute inflammatory symptoms have subsided, when the conjunctival surfaces have ceased to secrete profusely and are really struggling to recover from the irritation to which they have been subjected during the active period of the disease. As I have said, the application of nitrate of silver must be repeated with caution and with definite indications, the chief reliance being on the uninterrupted application of cold and liberal washing of the eye with an unirritating aseptic fluid —*i. e.*, one made with boric acid.

Some of our text-books on diseases of the eye still advise the use of the solid stick of nitrate of silver in purulent ophthalmia, but I am sure that this recommendation is one of those things which have gained credence from having been transmitted from book to book, and the sooner it is expunged from the chapter on the treatment of purulent ophthalmia the better for the subjects of this terrible disease.

Let me remind you, in conclusion, of the great danger to sight to which the affected eye is exposed, and again emphasize the importance of protecting the healthy eye with the covering which I have described. No fanciful allegation for a remedial agent will justify any one in ignoring the importance of the protective covering when one eye only is affected; to omit it under the circumstances is criminal neglect.

9 West Twenty-second Street.

PSEUDO-MEMBRANOUS RHINITIS.

By HENRY DWIGHT CHAPIN, M. D.,
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The relation of pseudo-membranous laryngitis to diphtheria has long been the subject of earnest discussion, upon which all good observers are unable to agree. In recent years a number of cases of pseudo-membranous rhinitis have been reported, and it now appears as if the nose as well as the larynx must occasionally be added to this debatable ground. Can there be a croupous inflammation of the nasal mucous membrane entirely apart from a manifestation of diphtheria? A glance at the recent literature of this subject may aid in the solution of the problem. As far back as 1871 Schüler (Jahrbuch. f. Kinderh., iv, p. 331) reported the case of an infant five weeks old whose nose was stopped with pseudo-membrane. Microscopical examination showed it to be a mass of fibrin, imbedded in which were many cells. He speaks as though the membrane was entirely confined to the nose. The infant died from a complicating erysipelas. Hartmann (Deutsch. med. Woch., No. 29, 1887) reports six cases occurring in children at the following ages: three, three, four, six, seven, and nine years. This author appears to have been one of the first to make the announcement that this disease is separate from diphtheria. He was able to remove a complete cast of the nasal mucous membrane with the forceps and preserve it in alcohol. He states that cases begin with some fever and catarrhal pharyngitis, and last from eight to fourteen days. Moldenhauer

(Monatsch. f. Ohrenheilk., No. 9, 1887) reports three cases. They occurred during a greater prevalence of diphtheria in Leipsic than usual. In one case Moldenhauer saw patches on the tonsils, which, according to the statement of the mother, had appeared before the nasal symptoms. This case had, however, no fever. The duration of his cases was twelve days at the utmost. A microscopical examination made by Professor Huber showed nothing to distinguish it from diphtheritic membrane. This author is not sure what relation the affection bears to diphtheria, but thinks probably it is a different disease. One case left adhesions between the turbinated bodies and septum. Seifert (Munchen. med. Woch., No. 38, 1887) likewise reports three cases. One occurred in an adult of twenty-six years, with a fever for eight days and the membrane lasting three weeks, followed by membranous adhesions. The other two cases were in children of the same family, one taking sick two days after the other and both having follicular tonsillitis. It appeared as if there was infection from one of these cases to the other. The membrane lasted from twelve to fourteen days. The author likewise speaks of membrane forming after nasal operations and after cauterizations. Dr. G. S. Ryerson, in the Medical Record for July 30, 1887, narrates a case occurring in an adult in which the left nostril alone was affected. He evidently had no suspicion that the membrane was connected in any way with diphtheria.

In the next year Bresgen (Deutsch. med. Woch., No. 4, 1888) gives a short account of the disease. Bischofswerder (Archiv f. Kinderh., B. x, H. ii, 1888) gives a very important contribution to the subject. He observed three cases, aged four, six, and thirteen years, all ending in recovery. He thinks the disease has no relations with diphtheria, its occurrence depending on the weather, happening more frequently when wet and damp, as in the spring and fall. He states that when the membrane is thin it is hard to detach, the mucous membrane being then eroded and bleeding easily. This author considers that primary nasal croup is especially apt to attack scrofulous children. Dr. Potter (Journal of Laryngology and Rhinology, March, 1889) states that, according to his observation, membranous rhinitis occurs in about two per cent. of all cases of acute rhinitis. The attacks he has seen were not associated in any case with any of the infectious diseases. In fact, with a single exception, there was nothing to suggest a theory to account for the peculiar nature of the nasal inflammation; none of the patients had had diphtheria, and there was nothing to indicate its presence either during the attacks or afterward. The attack begins like an ordinary acute rhinitis, but by the third day a white coating is formed over most of the inflamed area—that is, over the turbinated bodies and over the septum. This coating can not be either washed away or wiped away with absorbent cotton; points may be torn off with small forceps, but the membrane soon reforms. In some respects this membrane is similar to that formed in diphtheria. It is dead-white and opaque; it is firmly attached to the parts beneath; it is only detached with violence, leaving a bleeding surface.

Another interesting distinction between this and the ordinary inflammation is the refusal of the tissues to respond to the contractile power of cocaine. The doctor regards this as one of the diagnostic points. The duration of the disease is about three weeks, notwithstanding the most energetic treatment, both constitutional and local. In conclusion, Dr. Potter agrees with most observers that all inflammations of the air-passages associated with the formation of a false membrane are related, and this relation is indicated by saying they are expressions of the diphtheritic poison. He asks, however, whether this opinion should not be modified by saying that the great *majority* of these cases are so related. If we can have an inflammation of the nose characterized by the formation of a false membrane in which no trace of the diphtheritic poison can be discovered, can not the same kind of inflammation appear in the larynx or the pharynx? Dr. Potter finally concludes that questions involved in the consideration of inflammations seen in the air-passages can not yet be considered settled. Gluck (Med. Record, April 27, 1889) is the last to report a series of cases, occurring in a succession of two years. The symptoms resembled a bad cold in the head, or hay-fever, and the affection was seen during the months of April, May, and June. I have two cases to report that first came under the observation of Dr. Jonathan Wright, and, after a consultation, watched by us jointly. The patients were sisters, aged two and three years, respectively. The latter was the first to develop the disease, and presented the most marked manifestation of it. She gave the history when first seen of being well until two weeks ago, when a discharge began from the nose, accompanied by coughing and sneezing. Her general condition was good, bowels regular, and sleeping well. No fever. An examination of the nose showed it to be packed with fibrous material, the throat being only congested. For the next few days shreds of membrane were thrown off from the nose. On several occasions large masses of membrane were detached by the forceps, followed by some bleeding. There was very little rise of temperature throughout the disease, although at one time the thermometer registered 101·5° F. For some days she continued to discharge membranous material from the nose, during all of which time her general condition was good, without any constitutional signs of disease. She played around and ate well, the only inconvenience being from the nasal stenosis. The baby exhibited about the same course of disease, except that the membrane was much more friable and not so abundant. Neither case presented the slightest evidence of sepsis. Careful chemical and microscopic examinations of the urine gave negative results. It was impossible to keep the children off the floor, and, seeing that my rather grave prognostications were in no sense realized, the mother ceased making the effort. The family lived in draughty rooms, with floors uncarpeted, and the children were allowed much of the time to play on the floor. As the season was December, this may afford some explanation of the disease.

In studying these cases, the question first propounded in this paper arises, What relation do they bear to diphtheria? It seems to me that our answer, in the present state of knowledge, must be negative. They presented no evidence of the ordinary action of diphtheritic poison, either primary or secondary. Certainly, if the nose is filled with infective matter the system should soon be influenced by it. Simon (Schmidt's Jahrbucher, B. cvii, p. 161) has given a description of the nasal lymphatics, as they form a wonderfully close intercommunicating network of vessels, being especially abundant in three places—(1) at the top of the superior turbinated, (2) upon the external surface of the middle turbinated bone, and (3) in the space anterior to this. Thus anatomical studies explain the clinical fact of active sepsis from the nose. Finally, from a study of the cases reported in the recent literature of this subject, we may conclude that, while there is such a disease as pseudo-membranous rhinitis, it is extremely rare. We here exclude the croupous inflammation resulting from caustics or the galvano-cautery. While these authors recognize a croupous inflammation of the mucous membrane of the nose as a distinct disease from diphtheria, they are not satisfactory as regards differential diagnosis. As far as the false membrane itself is concerned, both in structure and attachment, it does not appear to differ from diphtheria. This being the case, our diagnosis must rest upon its exclusive situation in the nose, together with the absence of sepsis and general constitutional symptoms. Knowing well how sensitive the nasal mucous membrane is to septic agents, the presence or absence of general symptoms may help to distinguish between diphtheria and croup. It appears to me, in the present state of our knowledge, this negative, tentative diagnosis is all we are justified in making. Voltolini, although he devotes a chapter to diphtheria of the nose, says nothing of croupous rhinitis. He states that he has never seen diphtheria confined to the nose.

27 West Fifty-first Street.

MILK STERILIZATION.*

By CHARLES G. CURRIER, M. D.

With an ordinary lactometer and by using a glass tube to permit one to observe what proportion of the total volume rises as cream, it is a simple matter for almost any person to determine with sufficient accuracy whether a given milk has been greatly adulterated or whether it conforms to the standard of chemical purity.

If the purveyor of milk removes a considerable proportion of cream and adds a large amount of pure water to what he calls pure milk, the most demonstrable injury to the purchaser is the obvious one of giving less than the pretended value of the purchase, which injury probably reaches no further than the act of fraud. When, however, the sophistication has been by means of impure water, or filth has been allowed to enter into the vessels used for transport, or when the milk has received from unhealthy cattle or from human or other infection any of the elements which are to-day believed by scientific physicians to be causative of serious diseases, such polluted milk must be regarded as offering positive danger.

The producers of the greater part of the immense quantity of milk supplied to the millions of people living in and near this metropolis receive a very scanty remuneration, and the high cost and unintelligent quality of the labor which has to do with this work prevent them as well as the middle-men from employing the finer precautions which we must consider much more important for the health of the consumers than the question of a small percentage of variation in the proportions of the constituents of the milk. Human beings of all ages can thrive upon very varying foods and varying quantities of them; but when the food is contaminated by the germs of disease, these may be expected to induce disease among some of those using this food.

Containing, as it does, the elements of a complete nutriment, milk affords a favorable medium for the multiplication of numerous kinds of bacteria and, until its reaction is changed by the evolution of considerable acid, the micro-organisms which presumably induce various diseases can maintain a high degree of vitality. Scarlet fever and other diseases of which the causes are not yet precisely known have been conclusively shown to be spread by contaminated milk.

With particles of dirt and manure, and from impure water used for rinsing receptacles, even if such water is not employed for adulteration, from unclean cans and bottles, and, to a slight extent, from the air, many micro-organisms enter, and then, unless the milk is kept constantly at a very low temperature, multiply to an enormous extent. Thus the average milk sold in this city contains, according to my observation, many thousands of bacteria in each teaspoonful, and the worst milk reveals in that amount over a million. Although they are almost always saprophytic, and although the consensus of scientific opinion does not attribute disease-producing action of any serious nature to them, still the most skeptical are at times obliged to admit the force of the clinical evidence that milk, coincidently with and presumably by reason of the presence of a multitude of bacteria, often contains harmful elements. No allusion is here intended to "foot-and-mouth" disease or other diseases transmissible by milk, but whose presence in cattle gives such unmistakable signs that the question of a milk supply from such cattle would better be treated by criminal jurists than in a scientific study. Notwithstanding that primary tuberculosis of the intestinal tract is rare, still instances are all the time being brought before us where the ingestion of foods containing the characteristic bacilli of tuberculosis has induced death from that disease. The most valuable study of danger of this character has been made by Professor Bang, and his warning can be found in the pathological portion of the report of the Copenhagen Congress of 1884. Among the numerous articles which have treated various portions of the subject with more or less thoroughness it is perhaps best that I here allude to only Dr. Ernst's important communication in the American Journal of the Medical Sciences for November, 1889, as it serves to impress the fact brought out by Bang that milk from cows which showed no obvious indications of disease on the udder or in other parts had numbers of the bacilli of tuberculosis present, and this milk could cause fatal tuberculosis when tested by the usual animal experiments.

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* Read before the American Pædiatric Society, June 3, 1890.

The milk drawn by a suckling from the breast of its healthy mother is wholly free from germs. These gelatin and agar plates which I show you have no signs of colonies of bacteria, yet a week ago they each received a cubic centimetre of milk from a healthy cow whose udder as well as the hands of the dairyman had been carefully cleansed before the milk was received into this sterilized bottle, in which you see that the milk is wholly unchanged, and yet the closed bottle has not been kept cool during the intervening week. These other plates, prepared in precisely the same way excepting that a cubic centimetre of ordinary milk from a grocery shop was added to each of them three days ago, now show over a hundred thousand colonies in each, while the bottle of milk has become sour and the casein has separated. Thus, though it may have come from healthy cows and have no broken-down tuberculous gland tissue or be otherwise contaminated with the germs of serious disease, the average milk is, as you realize, quite certain to contain many bacteria. So the question arises whether we shall regard all the so-called "pure milk" as in reality pure and fit for the nourishment of the very young and of invalids; and if any or all of these micro organisms are by their presence or by their products probably a source of greater or less harm, how can we best remedy or prevent the undesirable effects of their active presence in the milk?

Ever since the brilliant genius of Pasteur, in 1857, announced that micro-organisms caused milk to "change" and refuted Liebig's theory that casein of itself furnished *de novo* the chemical ferment which was the original and only cause of the souring of milk, clinical and laboratory evidence has constantly been accumulating to demonstrate that the increase and developmental activity of various kinds of bacteria in milk can produce poisonous substances, which are capable of killing animals, and we can not evade the conviction that even bacteria which are not regarded as disease-producing can, when in milk, evolve these toxic principles. Disorders of the digestive tract in infants are notably caused in this way.

Pasteur, Lister, Hueppe, Escherich, Marpmann, Grobenfelt, Scholl, and various others have studied the subject of the varieties of micro-organisms causing milk to change its character, and, for our immediate purpose, their valuable original observations may be summed up by saying that at least twenty different species have been recognized as affecting the milk in this way. Some of these may cause the resulting fluid to be for some persons rather wholesome than otherwise. Thus kefyr (or kumyss) is derived from milk by the fermentative action of certain specific bacteria and a yeast which convert a portion of the milk sugar into glucose, and then into alcohol and carbon dioxide. Lactic acid is also formed from a portion of the sugar, and the casein is by this coagulated in fine particles, then it is further somewhat peptonized.

Though only a few of the numerous species of bacteria which may be present in milk are productive of harm when ingested, still they furnish a very undesirable element, and their influence is positive and harmful when they are present under conditions favorable to their activity. Hence we nowadays, when supplied with milk of doubtful purity, seek to sterilize it by killing all the bacteria in it. The sterilization must be complete if we wish to keep a milk indefinitely.

Recognizing that the lactic acid produced, as above indicated, by the fermentative action of bacteria is destructive of many bacteria which may be present in milk, and especially of the most harmful ones, we are led to test the effectiveness in this respect of such chemicals as are most used as remedies and such as are not unsafe. We find, however, that, when used in sufficient strength to destroy all bacteria, or even certainly arrest their activity, we have to employ too large quantities even of such as salicylic and boric acids. Kitasato has shown that in milk originally neutral even the feebly vitalized cholera germs remain alive and harmful until the milk has become decidedly acid—that is, until several days have passed. Alkaline (as also usually neutral) salts rather favor the activity and increase of bacteria than otherwise, and if the milk is heated after alkalies have been added, these cause the milk to break up and—by transformation of the sugar—take the unwelcome brownish color of caramel. Furthermore, the idea of adding chemicals to food supplies is not agreeable to most people.

The centrifugal separators used in dairies to get the cream at once cause very many of the bacteria to be carried out of the milk and to be deposited with the unwholesome-looking sediment obtained. Hence the "skimmed milk" derived in this way is a safer food than ordinary milk, and of course is very rich in nitrogenous and all other nutritive elements excepting the fats. Still, this process does not insure entire immunity from tubercle bacilli, for instance.

Cold—as in its practical bearing known to all—retards greatly the increase of such organisms as may have found their way into milk; but the germs of disease can for a long time retain their vitality in milk, even if it be kept as cold as ice. So, to destroy all organisms present in milk, whether they are of the most pernicious sorts or the seemingly harmless ones, our best recourse is to the familiar employment of heat. We find that superheated steam, as applicable in laboratories and special establishments, is more rapid in producing the result desired than the usual steam of the temperature of boiling water, which again is more speedily efficient than when the lower temperatures down to 75° C. (167° F.), used in Pasteurization, are employed. A temperature even lower than this (which is regarded by some as affecting the taste of milk less than a higher heat) speedily deprives cholera germs of life, and, if maintained for a few minutes, serves the same useful purpose with the germs of typhoid. The bacilli of tuberculosis are much more resistant, and to be sure of destroying all of these that may be present a milk should—to state it as accurately as I can at present—be well boiled (or steamed) for at least twelve minutes. To estimate with some accuracy how long an average city milk requires for complete sterilization, I have in the last fifteen months made numerous experiments with milk of various qualities and from different sources.

I desire here to acknowledge my indebtedness for the facilities most generously and courteously afforded me for this purpose by the laboratories of Privy Councilor Koch, at the Hygienic Institute in Berlin, and by the Carnegie Laboratory in this city.

Occasionally in my experiments the milk was boiled in large sterilized flasks stopped with cotton, and immersed in water uniformly kept at the desired temperature by means of regulated heat, and samples were carefully removed from time to time by sterilized pipettes. For steaming I have usually employed the Arnold steamer, as being excellent for use where only a gas flame can be had, for with it a temperature of nearly, if not quite, 100° C. can be maintained. It ought, however, to be stated that the ordinary and much less cumbersome steamers used over pans or kettles on stoves with hot fires work equally well, and the poorest of these that I have tested yielded a temperature of 95° to 96° C., and when wrapped in a towel to prevent great loss of heat through the defective cover, these ordinary ones gave a temperature of 99° to 100° C. The fluid inside of even the thickest bottles becomes, within a little over five minutes after they have been put into the hot water or steam, hot enough to have begun the sterilization of micro-organisms, but thick glass retards a little the sterilization of the contained fluid.

While I regard Tyndall's method of intermittent sterilization as the most effectual for laboratory work, I need here only mention the fact, for the practical economy of the dairy and the household does not favor the inconvenience of repeated brief steamings, and it is more costly than to effect the same result by a single heating, even though the milk needs then to be exposed for a long time to the heat.

When using steam the milk has been in sterilized, cotton-plugged flasks, holding 250 c. c., and of these one or three were by means of threads quickly removed at definite intervals of a few minutes. These were at once tested by culture plates, and one of the flasks, after cooling somewhat, was then put in a thermostat and kept for four days at a temperature of 36° to 37° C.; another was kept at 17° to 20° C.; and another at 4° to 5° C. At the end of this time the milk was inspected and tested by gelatin plating, and, as a check, sometimes by adding a few drops to agar and potato surfaces.

The best test was the inspection of the milk after it had been for four days in the thermostat at "blood-heat" (37° C.), for, under these favoring conditions of nutrition, moisture, and temperature, single bacilli remaining alive can, in a few days, develop enormously, and cause the milk to reveal their presence.

As the time is limited, I will omit here a tabular statement of the examination of forty-two different milks tested in this way, and will summarily say that, with the varying quality of the milk sold in different places, the vitality, character, and proportion of the bacteria found present vary greatly. *Bacillus subtilis* is well known as a particularly resistant spore-bacillus, and this seems to be more resistant in the ordinary milk that I have tested than I have ever found it in clear water. This is probably in part due to its being adherent to minute particles in the milk. This bacillus which I show you under the microscope seems much more resistant than *Bacillus subtilis.* It grows on potato like the "potato bacillus," but is longer and more slender. The threads which I show you in a hanging-drop-bouillon culture are straight, and the bacilli from 4 to 6 μ long.

I have also found a shorter bacillus, with rounded ends and growing yellowish and smeary in potato-cultures, to be a frequent cause of milk-souring here. You see that it is not so mobile as the others.

With a very carefully derived milk, I have several times found that fourteen minutes sufficed for complete sterilization; but, owing to the uncertainty as to what bacteria have entered, it is useless to prescribe an unvarying time allowance for this purpose. Thus one day I was furnished milk from an excellent dairy establishment in Berlin which was completely sterilized by five minutes of heating. From the same place, on the next day, the milk was not wholly sterilized until it had been heated (as on the day before, at 98° C. to 99° C.) for nearly nine times as long—*i. e.*, for forty-three minutes. This was better milk than one usually gets in New York, and it is uncommonly good city milk which becomes completely sterilized in from half an hour to three quarters of an hour. If impure milk, after being steamed for from half an hour to an hour, is not wholly sterilized and a few spores remain alive in it, it will be much more wholesome than before the steaming process, and one can feel confident that, as far as the science of the day reveals, no living organisms of disease are present. Such milk will, in a cool place, keep for days; but, if it is desired to keep it indefinitely, that purpose can be insured in advance and accomplished with certainty only by steaming perhaps for hours, unless the milk is of unusual purity, most carefully obtained at the dairy, and put into the cleanest of containers.

Soxhlet's merit seems, as Escherich has emphasized, to have been the introduction of the well-known rubber stoppers, through which a single hole is punched. This is to be closed by a glass rod, which should be at least partly introduced before the sterilization has gone very far. This stopper seems preferable to that recommended last year by Escherich, which has been introduced here under another name. This second rubber stopper is solid, except that a slight groove has been gouged out on one side, and, as originally recommended, there was a corresponding hole or depression in the neck or mouth of the bottle. The communication would cease when the stopper was turned or pressed in. As for the style of the rack used to hold the variously shaped small bottles used in any given apparatus, that seems largely a matter of fancy. The sterilized stoppers should be introduced before any germs reach the sterilized milk. When the milk is to undergo transportation, reliance should be had upon the Soxhlet rubber stopper, or, for economy, a suitable cork stopper previously sterilized by long steaming, and sterilized parchment or other caps adjusted, as otherwise micro-organisms, having fallen upon it, would find their way around the stopper into the milk, but less readily around the rubber stopper than around the cork stopper when both were unprotected from dust.

Of course, the labor incident to these processes augments greatly the cost of the product. To the affluent this matters little; but since we, as consistent sanitarians, must consider the welfare of the families of the indigent at least as carefully as of the wealthy, and as the great masses of the poor of our cities are precisely the ones who have to accept milk of the least pure origin, while they both lack the ability to procure a considerable sterilizing "plant" and rarely manage it rightly when they have it, it seems necessary to emphasize the points which are of paramount importance. Some persons can not or will not attend to all the minute details as above indicated, and can not afford to buy the best quality of sterilized milk, but rather have to use for infant feeding milk of questionable purity, and find that, although water and sugar have been added in the proportions which long usage has shown to be best, still the babe has the digestive and diarrhœal symptoms which physicians know so well. It should always be impressed upon those who use such milk that it should be poured into, say, a clean bottle of any size, plugged with clean ordinary cotton, and kept in a steamer or in hot water for at least an hour, and then kept cool until used. The danger that bacteria will fall in from the air when the milk is poured from the large bottle into the nursing bottle is for such cases a minor one. It is when they swarm in the milk that the bacteria are most to be apprehended and not when they are solitary. Careful instructions should be given to keep the bottles clean. For soaking the rubber-nipple arrangement the antiseptic solution which is on the whole safest is a three-per-cent. or four-per-cent. (saturated) solution of boric acid, which prevents increase of bacteria, even if, in the short time that it is in action, it does not kill all the germs that may be present.

That babes thrive upon sterilized milk and grow perfectly when fed with this substitute for mother's milk is beyond question. Even if it has been cooked, and is thus unlike the natural food of the infant, such cooked food seems much safer than ordinary milk which may be swarming with micro-organisms. Like the addition of barley-water, the process of steaming the milk is generally regarded as improving its digestibility in that the casein of cooked milk seems to coagulate in finer masses in the stomach, in which respect it is more nearly like human milk as derived by sucklings and superior to cow's milk that is uncooked. Raudnitz and Vasilieff have recently called attention anew to the fact that boiled milk seems slightly inferior in nutritive value to a superior quality of perfectly fresh cow's milk, especially as regards the absorption of nitrogenous elements and of lime salts. If it is desired to secure the utmost absorption of lime, as in rhachitic cases, it may be well to try the addition of small amounts of very dilute hydrochloric acid, as Raudnitz recommends. When water and sugar are to be added, as for the food of the early months of life, this should be done previously to the sterilization. For reasons already given, it is not well to add any considerable proportion of alkali before the heating process has been completed.

Summary.—Ordinary milk, like other foods, is in general safest when cooked. While for common city milk an hour's steaming is often insufficient for complete sterilization, yet by keeping the milk for twenty minutes at the temperature of boiling water, we destroy almost all of the micro-organisms that may be present and eliminate the element of danger from any of the recognized disease-producing germs (including the *Bacillus tuberculosis*) that may be present. We should therefore direct that a doubtful milk be boiled for at least thirty minutes, as careless people may lose time in raising the milk to the desired temperature. For a common city milk it is well to set an hour as the time for which it should be steamed, and after this cooking the milk should be kept cool until used; if then any spores remain alive, their increase is at most very slow.

Inasmuch as the length of time required to completely sterilize milk by steaming depends somewhat upon the amount of uncleanliness of it and chiefly upon the character of the bacteria present, and whether they adhere to this dirt or not, one can not definitely state in advance the exact number of minutes needed for sterilizing a given milk so that it will keep indefinitely. An exact knowledge of its history is most important in this regard.

If used without having been cooked, milk should have come from a producer who employs a constant and competent inspection to detect the development of disease in any of the carefully kept cows, and where no diseased or unclean milk is allowed to enter into the supply sold. The most careful and incessant cleanliness should be practiced to exclude all hay-dust and other dirt, whether coming from the hide of the cow, from the hands of the milker, from an imperfectly cleansed vessel, from the air, or by the contamination of impure water.

The cans and other receptacles used should have been well cleaned with hot water and steamed for some time. When the milk (strained through fine cloths, if not absolutely clean) has been put into these, they should be well covered and at once cooled and constantly kept at a low temperature.

The bottles in which the milk is to be sterilized must be clean, and must have been sterilized by steam or hot water. Dry heat used for this purpose must be of a high degree and prolonged.

The bottles out of which milk is fed to babes should also be kept rigorously clean, and after the nipple arrangement is cleaned it can lie in a saturated solution of boric acid.

Vaginal Injections of Corrosive Sublimate and Naphthol.—"Dr. Rafael Weiss, writing in El Progreso Medico, a Cuban medical journal, mentions a form of poisoning by perchloride of mercury when frequently used, even in very weak solutions (1 to 5,000 or 6,000) after severe post-partum hæmorrhage, which requires the complete cessation of the mercurial salt. It is characterized by diarrhœa, causing exceedingly fœtid stools every few minutes, with severe colic and tenesmus, but without any stomatitis or albuminuria. According to the same writer, naphthol solutions when used as injections in obstetric practice not infrequently give rise to very severe smarting and burning pains, lasting for half an hour or so; and this unpleasant property has caused many practitioners to abandon the use of this substance for vaginal injections altogether. The inconvenience may, however, be entirely obviated by introducing iodoform in powder so as to cover the vaginal mucous membrane, and especially any lacerations that may exist, immediately after the naphthol injection."—*Lancet.*

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A WORD TO YOUNG MEN WHO MAY BECOME MEDICAL STUDENTS.

The close of the annual course at the academical institutions forces upon a multitude of our young men the question of what career they will take up as that of their lives. Many of those who are now leaving college have probably come to a decision on this point already, but perhaps with the majority the question of a vocation is still an open one. Many are undoubtedly considering the advisability of studying medicine. Our impression is that the proportion of bright university men who choose a career in medicine is constantly growing larger. Manifestly this means that medical study is growing more and more attractive to men of notable ability, and it augurs well for the future achievements of American medicine. At the same time it means greater difficulties for those of mediocre ability who also may elect to follow medicine as a means of making a living, and we may be sure that not a few of them are bent on joining the ranks. In the struggle for success they will have to cope with formidable competitors in greater numbers than the men of mediocrity had to deal with a generation ago. It behooves them, therefore, to think well over the matter before coming to a conclusion that they may some time wish they had never reached.

As a general thing, the emoluments of medical practice are only moderate; probably, on the average, they amount to no more than enough to enable a man to bring up a family of children respectably and give them such an education as may fit them for a choice of occupation from a fairly broad field, with no prospect of any considerable patrimony. A physician's renown, even under the best of circumstances, is seldom more than local, and is not often remembered for many years after his death. Moreover, what he may achieve in the way of income or fame comes only as the result of far greater exertion than is necessary to bring about a corresponding condition in mercantile life or in some of the other professions. We are speaking, of course, of those who are destitute of pecuniary resources that make them more or less independent of practice. Without some such resources, indeed, the medical career is growing more and more difficult to follow successfully, for the material outfit required and the expenses incident to the practice of medicine are constantly becoming greater. Lastly, a medical education is of little use to a man in almost any other pursuit than that of medicine, whereas a legal training may be made serviceable in many vocations, and a business-man may keep on drawing upon his past experience amid any number of changes of career.

But we have no intention of drawing a doleful picture; there are many things to offset the disadvantages that we have mentioned. It is undoubtedly true that failure to achieve fair success, to lead a respected and enjoyable life, does not fall to the lot of physicians in greater proportion than to men engaged in other pursuits, and no young man who is able and willing to prepare himself adequately for the practice of medicine need be over-anxious concerning the ultimate result. Nevertheless, it is well to take all these things into account before taking a step that can not be retraced without much sacrifice.

THE SUMMER DIARRHŒA OF INFANTS.

As the warm season comes on, we can not shut our eyes to the fact that it is certain to bring with it the yearly summer increase—in some years a little more, in others a little less, but always considerable—of one of the chief obstacles to the survival of infants in this climate. Its onset will tax the resources of physicians while it wrings the heart of many a parent. If we take account of the continued increase of our population, still largely by immigration, with the helplessness that seems inherent in the great majority of the poor who come to us from other countries, we may congratulate ourselves that much has been accomplished to keep the perils of infant life within reasonable limits. Sanitary officials now occupy themselves with measures more directly of benefit to the community than the gathering of statistics; the controllable causes of disease are all the time getting to be more and more understood, both by the medical profession and by the people; blind confidence in certain special articles of food is giving way to the feeling that there is nothing curative in any of them, but that their beneficial operation is rather negative than positive, in that they take the place of substances that are apt to prove detrimental; and, thanks to the growth of private as well as public bounty, adequate medical care and hygienic surroundings are furnished each year to a larger proportion of the community. Still, the ravages of summer diarrhœa among young children have barely been mitigated, not decidedly reduced.

The brunt of the battle against it still falls on the family physician, and it behooves him to consider with what greater advantages he can undertake the task now than in previous years. On reviewing the resources at his command, he will be obliged to recognize that only a very few of those that are really effective are strictly medicinal. Some new drugs, it is true, are proving valuable agents, but correct feeding must be our main reliance. The problem of supplying an infant deprived of breast-milk with food sufficient for its nutrition and at the same time free from elements that are prone to give rise to gastro-intestinal disturbance is not to be solved by any grand move; it is to be met only by unremitting attention to a multitude of details, varying somewhat according to the circumstances of the individual case. Undoubtedly a most effective weapon of defense has been placed in our hands by those who have contributed to simplify and popularize methods of sterilizing milk, for milk must be given to infants day after day, allowance being made for its temporary withdrawal from the diet under special circumstances. Not less important is absolute cleanliness of every article with which an infant's food comes in contact—cups, spoons, nursing-bottles, and the like. It is by the supervision of such matters far more than by the ingenious use of drugs that the physician will be able to carry his infant patients through the perils specially incident to the hot season.

MINOR PARAGRAPHS.

LEPROSY IN CENTRAL AFRICA.

In one of Mr. Stanley's letters he incidentally refers to a case of mutilating disease having a strong resemblance to leprosy. This was found at a point in his last journey where no white man or Arab had visited before him, so far as he could learn. The diseased person, an aged female, was alone at the time, apparently an outcast and subjected to a quarantine such as might be formed by all the rest of her tribe running away from her. Linguistic difficulties prevented Stanley from getting a satisfactory history of the case, so that the verification of his diagnosis of leprosy must be left to some future explorer of the African Lakes country. The explorations of Captain Lovett Cameron about Lake Tanganyika, nearly due south from the point visited by Stanley, as referred to above, brought out the fact that a leprous tribe was believed to exist on the shores of that lake. It is the belief of the natives that the disease may be contracted by drinking the water of the locality where the afflicted tribe abide. The other natives shun that tribe and will not intermarry with its members; the lepers themselves are forbidden to depart from their district. They are chiefly located upon a high rocky island in the northwesterly part of the lake. Captain Cameron did not himself see these people, but he was informed that the disease produced mutilations of the extremities, the greater number of its subjects having lost a part of a hand or foot, while nearly all had been deprived of the sight of one or both eyes, and it was quite a rarity, he was told, to meet with a person not suffering from blindness in some degree.

THE TREATMENT OF CONGENITAL CLUB-FOOT AT THE VON VOLKMANN CLINIC.

According to O. von Buengner (Centralblatt für Chirurgie; Fortschritte der Medicin), in 156 cases of congenital club-foot treated at the clinic since the year 1880, division of the tendo Achillis was done in 32, division of the tendon of the tibialis posticus in 8, division of both those tendons in 8, cuneiform osteotomy in 4, excision of the astragalus in 25, and Phelps's operation in 21. During the last few years division of the tendon of the tibialis posticus, cuneiform osteotomy, and removal of the astragalus have been almost wholly given up, although the last-named procedure has given some good results. In children under a year old, who had not begun to walk, a perfect cure often followed daily manual correction of the deformity. In older children forcible correction and the application of plaster of Paris, with or without division of the tendo Achillis, are employed, followed by the use of Scarpa's shoe subsequently. In severe cases open division of the soft parts on the inner side of the sole, including the abductor hallucis, the plantar fascia, the flexor hallucis longus, and the tendon of the tibialis posticus, is resorted to, the astragalo-navicular joint being sometimes opened, but the branches of the plantar nerve spared. There has been no trouble from hæmorrhage in consequence of division of the internal plantar artery. The wound is stuffed with antiseptic gauze, and plaster of Paris is applied after correction of the deformity.

A PROPOSED STATUE OF RICORD.

The pupils and friends of the late Dr. Philippe Ricord, of Paris, have formed a plan for erecting a monument to his memory. The committee consists of Professor Fournier (president), Dr. Horteloup (secretary), Professor Brouardel, M. Alexandre Dumas, M. Gérome, Dr. H. Roger, Professor Hardy, Dr. Le Dentu, Dr. Diday, Dr. Doyon, Dr. Péan, Dr. Bouchut, Dr. Mauriac, M. Peyron, Dr. Rochard, M. Boswiel, Baron Haussmann, M. Gouzien, M. Ritt, M. A. Meyer, M. John Lemoinne, M. Baragnon, Dr. Pignot (secretary of the subcommittee on subscriptions), and M. Lavoignat (treasurer). The committee has sent out a circular inclosing a subscription blank. In a supplementary circular addressed to the editors of medical journals in the United States Dr. Pignot announces that the monument is to be in the form of a statue of Ricord, to be set up in the Hôpital du midi, which the dead surgeon immortalized by his thirty years' service. Dr. Pignot adds that Ricord's glory belongs not to France alone, for he was born in Baltimore, and throughout his life he cherished his relatives, friends, and pupils in America. We are confident, therefore, that American physicians will be glad to contribute to the proposed monument. Their subscriptions may be sent to the office of the Journal of Cutaneous and Genito-urinary Diseases.

COMPLETE PROLAPSE OF THE UTERUS IN A NEW-BORN INFANT.

An abstract of an account of this anomalous accident, by Quisling, of Christiania, is given in the Centralblatt für Gynäkologie. The mother had previously borne three healthy children, but the fourth had a spina bifida in the lumbar region and pes equino-varus on each side. The health of the child was good for seven days; then diarrhœa set in accompanied by severe tenesmus and straining, which resulted in prolapse of the rectal and vaginal mucous membrane. On the following day the uterus was completely extruded and the vagina everted. It was easily replaced but immediately fell out again. This condition remained until the death of the child, when it was seven weeks old. The autopsy revealed no anatomical cause for the prolapse, and it could be explained only by the intra-abdominal pressure. The author considers this case a proof of the importance of intra abdominal pressure as a cause of prolapse of the uterus.

A VERMIFORM APPENDIX IN THE SCROTUM.

Under the title of Appendix in the Scrotum, Dr. George H. Monks reports in the Boston Medical and Surgical Journal an interesting case of inflamed inguinal hernia of the vermiform appendix. The diagnosis was not made at first, and aspiration revealed only a few drops of pus. After the acute symptoms had subsided the tumor was cut down upon and found to be the appendix surrounded by a mass of old indurated exudation which had obliterated the peritoneal pouch in which the appendix lay.

A TRIPLE BOARD OF MEDICAL EXAMINERS.

Among the medical bills rescued from the wreck of the last Legislature, by the signature of the Governor, is that known as "Bill No. 313," providing for three separate boards of State Medical Examiners, after September 1, 1891, to be appointed by the Regents of the University. One board will represent the State Medical Society, one the Homœopathic State Medical Society, and the third the Eclectic State Society. After the act goes into effect, no person can practice medicine in the State until he has passed an examination, uniform for all parts of the

State, for all subjects except therapeutics, in which subject each school shall have its own form of examination.

HOMES OF REST FOR NURSES.

According to the Lancet, Sir James Paget lately spoke at a public meeting in the interests of the trained nurses. It is proposed to buy and endow a home of rest for nurses, especially those of the London hospitals, who have little opportunity for change, or relaxation, or leisurely convalescence after sickness, and, on their meager salaries of twenty to twenty-five pounds per annum, little means to make provision for a self-supporting home. Hence Sir James Paget comes to their rescue and shows to the public the strong claim the trained nurse has to generous and thoughtful consideration.

ORTHOPÆDIC SURGERY AT THE BERLIN CONGRESS.

There has been some fear that provision was not to be made for a section in orthopædic surgery at the Tenth International Medical Congress, but Dr. Gibney informs us that he has received from Dr. Lassar a letter in which it is stated that such a section will be established. We are glad to be able to make this announcement, for we are convinced that the orthopædists will have matters of importance to present that would not be sufficiently provided for in the surgical section.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 17, 1890:

DISEASES.	Week ending June 10.		Week ending June 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	13	1	8	1
Scarlet fever	67	11	57	6
Cerebro-spinal meningitis	0	0	0	0
Measles	357	35	355	22
Diphtheria	81	22	90	32
Varicella	6	0	16	0

The Vermont State Medical Society will hold a semi-annual meeting in Rutland on Thursday and Friday, the 26th and 27th inst., under the presidency of Dr. H. S. Brown, of St. Johnsbury. Besides an address by the vice-president, Dr. J. B. Wheeler, of Burlington, the programme includes the following titles: The Successful Treatment of Extreme Opium Poisoning by Forced Respiration, by Dr. F. W. Goodall, of Bennington; The Treatment of Hay Fever, by Dr. C. E. Chandler, of Montpelier; The Doctor's Annoyances, by Dr. C. W. Petty, of Keeler's Bay; Uterine Displacements, by Dr. W. R. Prime, of Burlington; Nature's Remedies, by Dr. E. W. Campbell, of Bellows's Falls; Tonsillitis, by Dr. F. T. Kidder, of Woodstock; and the Prophylaxis of Tuberculosis, by Dr. C. W. Strobell, of Middletown Springs.

Peroxide of Hydrogen and Glycozone.—We learn that Mr. Marchand, whose name is well known in connection with the therapeutical applications of these agents, has written a book on the subject, copies of which may be had of the Drevet Manufacturing Company, No. 10 West Fourth Street.

The Lehigh Valley Medical Association will hold its tenth annual meeting in Easton, Pennsylvania, on Thursday, the 26th inst., under the presidency of Dr. W. L. Estes, who will give an address on The Doctrine of Modern Prophylaxis. Dr. W. H. Thomson, of New York, will give an address on The Treatment of Typhoid Fever.

Yale University, Department of Medicine.—Dr. Francis Delafield will deliver the address in medicine at the commencement exercises on Tuesday, the 24th inst.

The New York State Medical Association.—The eighth special meeting of the Fifth District Branch will be held in Kingston, Ulster County, on Tuesday, July 22d. The chairman of the Committee of Arrangements, Dr. H. Van Hoevenberg, reminds the members that a large attendance is desirable.

The Regents' Examinations of Medical Students.—It is announced that the examinations of medical students by the Board of Regents of the University of the State of New York will be held on the 23d, 24th, and 25th of September. The New York examination will be held at the College of Physicians and Surgeons.

Society Meetings for the Coming Week:

Monday, *June 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *June 24th:* Buffalo Obstetrical Society (private).

Wednesday, *June 25th:* New York Pathological Society; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

Thursday, *June 26th:* Vermont State Medical Society (semi-annual, first day—Rutland); Lehigh, Pa., Valley Medical Association (Easton).

Friday, *June 27th:* Vermont State Medical Society (second day); New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society.

OBITUARY NOTE.

Joseph W. Howe, M. D., of New York, died on board the steamship Umbria, on Saturday, the 7th inst. The deceased, who was a native of the Province of New Brunswick, was a graduate of the Medical Department of the University of the City of New York, of the class of 1866, and surgeon to Charity and St. Francis's Hospitals. He was a surgeon of decided ability and a man of excellent qualities.

Letters to the Editor.

A SUBSTITUTE FOR WIRING THE PATELLA.

Pulaski, N. Y., *June 2, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your Journal of May 31st is an article by Dr. Charles Phelps on The Treatment of Simple Fracture of the Patella by Wiring. While reading the article I had an idea which, if you think worth giving to the profession, please publish. Instead of wiring the patella, why not pass a strong silver or other metallic needle through the tendon just above the patella transversely to the leg; also one through the ligament just below the lower fragment, *both being outside* of the knee joint; allow the needles to project for two or three inches beyond the opening through the skin. With these ends draw the fractured bone together and fix it by means of rubber bands (or otherwise), extending from one needle to the other. Then dress the leg on a plaster bandage, and, with absolute rest, I see no reason why we should not get good results with less danger to the patient and less trouble to the surgeon than with the somewhat complex process of wiring. Frank S. Low, M. D.

A STATEMENT FROM MR. W. F. FORD.

New York, *June 16, 1890.*

To the Editor of the New York Medical Journal:

Sir: My attention has been called to the advertisement of the corporation Hazard, Hazard, & Co., in your issue of June

14, 1890, wherein they state that their "Surgical-instrument Department is under the direction and personal supervision of W. F. Ford, Instrument-maker to St. Luke's, Mount Sinai, New York State Woman's Hospitals, Bellevue, and all the other New York hospitals." I deem it my duty not only to myself, but to the surgical and medical profession at large, to state that this statement is without any foundation whatever, as I have no connection of any kind with Hazard, Hazard, & Co., or any of their departments; and that the only instruments now made under my direction and personal supervision are those manufactured and sold by the W. F. Ford Surgical Instrument Company. As I have been manufacturing for the surgical profession continuously for over forty years, it is but right that they should be informed of these facts. W. F. Ford.

Proceedings of Societies.

AMERICAN MEDICAL ASSOCIATION.

Forty-first Annual Meeting, held at Nashville, Tenn., May 20, 21, 22, and 23, 1890.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Intraligamentary or Imbedded Cysts.—Dr. W. H. Wathen, of Louisville, Ky., read a paper on this subject. After briefly describing the anatomy of the broad ligaments, the parovarium, and other fœtal tubular relics, illustrated by appropriate drawings, he said that cysts of the broad ligament were extra-peritoneal, and might be benign and simple, as in the so-called broad-ligament cysts, or quasi-malignant, as in the intraligamentary sessile or imbedded cysts. He merely alluded to the former, as they were readily amenable to treatment, and their removal required no high order of surgical skill; but he begged to call attention especially to the latter, as the literature upon this subject was comparatively modern and not extensive. These cysts might appear to be very simple, but they were often on the verge of malignancy, and were frequently infected with papillary ingrowths. They might be divided into unilocular-papillomatous and multilocular-papillomatous varieties. In the former, while the liquid was usually limpid, it was often so poisonous that it might cause rapid malignant degeneration of the peritonæum.

The unilocular cyst was probably derived from broken vertical tubes of the parovarium, and was more loosely joined by connective tissue to the broad ligament than the multilocular cyst. It had less intimate vascular connection, was more completely encapsulated, and was more readily removed by enucleation. It probably never became blended with the fibers of the uterus or bladder by continuity of tissue. The multilocular cyst had a few daughter cysts distended by a clear limpid fluid with exuberant and firm papillomatous growths. Its firm union and abundant vascular connection with its peritoneal and fibrous capsule, and its tendency to fuse itself to the muscular tissue of the uterus, bladder, and other subperitoneal pelvic structures, might make its removal one of the most difficult and dangerous operations in abdominal surgery. Its origin had not been definitely determined, but, as papillary ingrowths were essential features of fœtal tubular relics, it was generally taught that it arose from the tubules of the parovarium. The author was inclined to adopt the theory of Doran, that this form of imbedded cyst had its origin in stray fœtal relics which existed in the hilum of the ovary. He did not believe that this cyst arose from follicular degeneration of supplemental ovarian tissue or accessory ovaries, for papillomatous ingrowths were not found except in fœtal tubular relics, and in the hilum of the ovary relics of the Wolffian body existed in abundance. The walls of such cysts were usually thin, but very great development of fusiform muscular cells might make them at some parts half an inch in thickness. The liquid was generally limpid, but might be of different degrees of consistence and shades of color. It was not probable that this cyst could be diagnosticated by a chemical and microscopical examination of its contents, as maintained by Kœberlé; nor was it believed that it was possible to make a diagnosis until the abdomen had been opened, and even then it was not always an easy matter to do so. It might be confounded in its stages with other pathological conditions. Mr. Tait, in speaking of the pathology of these tumors, says: "The cells are irregular in size and often in form, are often ciliated, though incompletely so, and they evince a peculiarity of growth which I hold to be the only characteristic of malignant disease. When the tumors have reached large size this epithelial proliferation becomes dendritic and papillomatous, and some of these simple-looking tumors are among the most malignant things I have met with." He removed a simple-looking imbedded cyst from a young girl where no dendritic or papillomatous growths were visible. She had cancer in six weeks, and died in three months with cancerous involvement of all the important pelvic and abdominal organs. This special instance did not stand alone in his experience. The liquid of the cyst was often so acrid and poisonous to the peritonæum as to positively contra-indicate any form of tapping or aspiration through the abdomen, and the only treatment that was justifiable was laparotomy and careful enucleation of the cyst from its peritoneal and fibrous covering. But this was not always an easy matter, and the enucleation was sometimes so difficult and attended with such profuse hæmorrhage as to cause the woman to die on the operating table. The bladder might be opened in an effort to separate the cyst when there was continuity of structure. This misfortune had occurred twice in the experience of Goodell, who had probably had more experience in the removal of imbedded cysts than any operator in this country. Or the cyst might have so buried itself in the pelvis as to make it impossible to entirely remove it without endangering the large vessels deep in the pelvis.

No one should attempt to shell out the imbedded cyst until he understood the anatomical relations it sustained to its investing membrane and the organs and structures of the pelvis; otherwise he would not do good surgery, might fail to remove a cyst that could be easily enucleated, and might also cause the death of the woman. The cyst walls were often so rotten as to rupture with but little careless handling and allow the poisonous contents to enter and infect the peritonæum. For this reason it was probably better to remove the fluid with an aspirator before attempting enucleation, and then close the little opening with catch forceps. The investing membrane should be opened at the most favorable point, and with well-trained fingers one should carefully work from that point; otherwise he might lose his bearings, do a bad operation, and fail to remove the cyst. When the cyst was removed, the empty capsule, if small at its base, might be ligated low down and cut away, but with a thick, broad base, where there was oozing, the edges of the capsule should be gathered together by a purse-string suture stitched to the bottom of the abdominal wound and a drainage-tube introduced. In conclusion, the speaker reported a laparotomy for a deeply imbedded cyst in the right broad ligament.

Stricture of the Urethra in Women.—Dr. Ely Van de Warker, of Syracuse, N. Y., read a paper thus entitled. This condition was believed to be a very common one—even more common than stricture of the male urethra. Spasmodic stricture was not under consideration, but only those cases which had heretofore been explained by a specific or traumatic origin. It was more likely to occur in multiparæ than in virgins. Stricture should not be confounded with simple proliferation of the urethral mucous membrane, with which might be associated hypertrophy of the nymphæ or the clitoris and its prepuce. The anatomical relations of the female urethra were such that during the act of sexual intercourse it was as much exposed to conditions which would result in stricture as the male urethra was. The subject had been scarcely noticed in the text-books on the diseases of women, Thomas ignoring it entirely, and Emmet, Churchill, West, McClintock, and others saying that it was of rare occurrence or that it did not exist at all. On the other hand, Skene said it was of frequent occurrence, especially at or near the meatus, but his method of exploration with sounds was imperfect and unsatisfactory. The subject might be considered as holding a position analogous to that which was held by stricture of the male urethra a generation ago before the improved methods of examination of Otis and others were devised. The normal diameter of the female urethra had not been accurately determined, and it might not be essential that it should be known. It was usually so dilatable that its exact measurement was difficult to take. Herman stated that in the normal condition it would readily admit a 14 to 17 catheter. Stricture in the female urethra was not in all respects analogous to stricture in the male. One of small caliber in the male might give rise to no symptoms, while a similar one in the female might give rise to very positive symptoms. The best, if not the only, method of determining stricture in the female was by means of bulbous sounds, and the same instruments should be used in treating it. The stricture would sometimes require as large as a 30 (French) bulb for its relief. Such treatment was usually painful, especially if the lesion was located near the meatus, and cocaine should be used to mitigate the pain. We should not wait until symptoms of mechanical obstruction to urination were present before exploring the urethra for stricture; in fact, stricture might not be due to such obstruction. If the mucous membrane was everted, such an exploration should be made, and, as the membrane was restored, an annular stricture at the meatus might be apparent. The dilatation should be gradual, and the result would be gradual absorption of the surrounding exudate as well as rupture of the constricting bands. Treatment by electrolysis was painful and not more efficient than treatment with bulbs. It was a good plan to explore for stricture in all cases in which dysuria was present.

Dr. A. F. Currier, of New York, stated that the doctrine which had been advanced was at least new and original, and one could hardly be prepared to accept at once the statement that stricture in the female urethra was more common than in the male. It was also hardly safe to advise such general exploration and dilatation of this structure for diagnostic purposes, as it would lead the way to the same excesses and mischievous results which had occurred in many cases from the too common practice of dilating and cutting the male urethra. Still the reader's propositions were the result of practice and experiment and deserved greater consideration than mere theory. The method of examination in which the mucous membrane was everted might lead to an erroneous conclusion, as the supposed annular stricture at the meatus might be merely the result of traction. Another cause of stricture which had not been mentioned was the use of certain toxic substances, such as cantharides. An instance of the lesion from such a cause had been observed by the speaker.

Dr. Engelmann, of St. Louis, thought that stricture in the female urethra was more likely to be due to mechanical causes than to an inflammatory origin. As to the treatment, electrolysis might aggravate the trouble, but a mild and sedative galvanic current might be of benefit. The positive pole should be within the urethra and the electrode should be so covered that its metallic surface would not be in contact with the mucous membrane.

Dr. Reed, of Middleport, O., preferred to dilate such strictures as were under consideration with a self-retaining catheter, though admitting that inflammation might follow such practice. He had seen a case in which there was such a result.

Dr. Van de Warker thought it a mistake to suppose that a stricture of the female urethra necessarily implied great contraction of its lumen. The constricting bands could only be discovered as the olive-shaped bulbs were used. The criticism was a just one that the method of treatment advised contained an element of danger, but at present it seemed to be the only efficient method.

A New Operation for Prolapsus of the Anterior Vaginal Wall.—Dr. Currier read a paper with this title, in which he said that, with the exception of vesico-vaginal fistula, the lesions of the anterior vaginal wall were more or less ignored by the majority of the profession, or, if not ignored, were considered of less importance than they actually were. Especially was this the case with prolapsus, which might exist alone or in connection with descent of the bladder, uterus, posterior wall, or rectum. Prolapse of the vagina did not necessarily signify prolapse of the bladder and rectum, and errors of diagnosis in this direction were frequently made through examinations which were not sufficiently careful. In either case the vaginal lesion demanded operative treatment, but the symptoms were usually much more urgent if rectum or bladder had descended than when this was not the case. The vaginal wall was one of the means by which the weight of the bladder was sustained and such portions of the intestines as might be superimposed, and the medium through which the resultant of the forces exerted by the contraction of the abdominal muscles passed. The structures of the pelvic floor might be so disorganized as to be of little value as a means of support, but if the integrity of the anterior wall was preserved, the latter might act as an efficient barrier and support for a long time. The causes which led to prolapsus of the anterior wall were not limited to the parturient process, either directly or indirectly. The lesion might occur in the young and nulliparous in connection with general relaxation of muscular fiber, it might be the consequence of straining at stool in connection with persistent constipation, or it might occur in the aged in connection with general atrophy of the muscular tissue. A prolonged second stage of labor with subsequent imperfect involution might be its efficient cause, or it might occur in women who had had a number of pregnancies in rapid succession, and in whom the conditions of life and health had been such as to preclude complete involution. It had two types. In one there was atrophy of muscular fiber and diminution in the thickness of the entire structure; there was also protrusion of the bladder and disturbance of its functions, especially in those cases in which there was coexisting cough or constipation. In the other type the mucous membrane of the vagina was thickened and its connective tissue hypertrophied, but there was no protrusion of the bladder, though there might be extensive prolapsus of the vaginal wall. The object of an operation on this structure was to restore it so that it might accomplish its normal functions. This implied restoration of normal dimensions longitudinally as well as laterally. Operations which had heretofore been devised had tended almost exclusively to contract the wall only in its lateral or transverse dimension, the old operation of Dieffenbach being the type of such procedures. The vaginal wall was thus made narrower, but also somewhat longer, and the great strain which was placed upon a long line of union was not infrequently sufficient to rupture it and restore the former diseased condition in an exaggerated form. The method of Emmet—of burying a quantity of undenuded tissue beneath his line of union—seemed irrational, for, while this tissue might atrophy, it might also suffer decomposition. It also imposed a great strain upon a narrow line of union—a strain which it would not bear in all cases, as experience showed. The operation which was proposed as a substitute for previous methods aimed to contract the vaginal wall to a sufficient extent, both in length and breadth, and to distribute the tension over two lines of union at right angles to each other. Three operations had thus far been performed—in December, 1889, and January and March, 1890. All the patients had been seen within a few days, and there was as yet no indication in either case that the benefit derived from the operation would not be permanent.

In performing the operation an elliptical strip of mucous membrane of sufficiently large area was first removed from the anterior wall, as in the Dieffenbach and other operations, and then another elliptical strip at right angles to the first, the major axes of the two ellipses intersecting at their middle point. This tissue was best removed with forceps and scalpel; and in favorable cases, the outlines of the ellipses having been made by suitable incisions, the tissue could be unrolled or torn off upon a tissue-forceps with broad grip. In cases in which there was protrusion of the bladder, the dissection must be made with great care to avoid wounding that viscus. The hæmorrhage was sometimes considerable, for the bladder wall was very vascular, but it was mostly venous, and stopped as soon as the wound was closed. Catgut was used in closing the wound, No. 2 or No. 3 being used, according to the thickness of the mucous membrane. Continuous sutures were used, and they were buried in the connective tissue if that was thick enough to warrant it; otherwise the suture was carried directly from edge to edge of the wound, the needle entering and issuing from the mucous membrane about an eighth of an inch from the edge. A fine, slightly curved needle was used, about an inch and a quarter in length. That portion of the wound nearest the cervix was first closed, the suturing being continued as far as the junction of the longitudinal with the transverse ellipse. Then, with another needle and suture, the portion of the wound nearest the meatus urinarius was closed, the suturing being continued as far as the junction of that portion of the longitudinal with the transverse ellipse. Then, in precisely the same manner as before, the transverse segments of the wound were closed, and the two sutures were finally tied together at the middle point of the entire wound. The result was that the vagina was narrowed and also shortened to the desired extent, and the tension was evenly distributed over two lines of union, which cut each other at right angles in the middle point. The wound might be painted with iodoform collodion or left without any dressing whatsoever. The patient must lie quietly upon her back for a week, and by that time the wound would almost certainly be firmly healed, for the conditions of drainage were all that could be desired, and the vascularity of the parts was ample. If the patient suffered from severe cough the operation should be deferred, for the strain upon the wound induced by coughing might be sufficient to tear out the sutures.

Dr. Van de Warker believed that operations upon the anterior vaginal wall were among the most unsatisfactory that were performed upon the female genital organs. The result might be good for a year or two, but eventually the unfavorable condition was liable to recur. The operation which had been described resembled one which had been proposed a few years since by Dr. Reamy.

Dr. Reamy, of Cincinnati, O., described his operation, and had found the results very satisfactory after its use.

Dr. Johnstone, of Danville, Ky., thought that the anterior-wall operation would usually be unnecessary if the perineal body was sufficiently firm, and recommended the careful performance of the flap-splitting operation upon the perinæum, with or without an operation upon the anterior wall, when lesions of the latter were present.

Dr. Hoffman, of Philadelphia, objected to the flap-splitting operation as superficial and ineffective.

Dr. Johnstone replied that it was superficial if performed by a superficial operator, but not otherwise.

Dr. Engelmann had experienced little satisfaction in anterior-wall operations, especially when they alone were performed. The conditions which called for such operations usually indicated as well reparative measures upon the vaginal portion of the cervix, the posterior vaginal wall, and the perinæum.

Dr. Kerr, of Chattanooga, Tenn., thought an important preliminary consisted in attending to the condition of the uterus, which was frequently the cause of the vaginal lesions. In all cases in which there was subinvolution, or retroflexion, or fissure of the vaginal portion of the cervix, such condition must be remedied, or there would be little benefit from the operation upon the anterior wall.

Dr. Currier admitted the justness of all the criticisms which had been made concerning the necessity of repairing vaginal and uterine lesions which coexisted with the prolapse of the anterior wall. Such reparative measures had been taken in all the cases which he reported, as would be seen when the details of the cases were published. He showed that the principle of his operation differed in important respects from that of Dr. Reamy, and that there was a point of weakness in the latter which might be fatal to its utility.

Hyperemesis Gravidarum.—Dr. E. W. Mitchell, of Cincinnati, O., read a paper which narrated the dangers accompanying such a condition and the means which were suitable for its relief. Among the most reliable of such means were dilatation of the cervix and the production of abortion. The theory of the former was reasonable, but it sometimes proved inefficient. The latter must then be undertaken as a last resort. A case was narrated in which the condition urgently demanded relief, and abortion was performed, the patient recovering.

Uterus Bilocularis.—Dr. L. H. Dunning, of Indianapolis, Ind., read a paper in which the causes of such structural deformities, so far as known, were narrated. The paper was based upon a case in which this deformity existed, being accidentally discovered after the occurrence of an abortion. It had been usually supposed that the mortality in such cases was great, after abortion or labor at term, but the reader showed that the contrary was true. Hæmatometra or external hæmorrhage in this condition was not so dangerous nor so common as had been heretofore believed.

Antiseptics in Obstetrics.—Dr. T. B. Greenby, of West Point, Ky., read a paper in which he stated that an experience of many years had led him to believe that the use of so-called prophylactic vaginal injections during parturition was injurious, notwithstanding the fact that they were advocated by some of the most able and experienced obstetricians. The reader fortified his position by reference to the good results which had been obtained in various hospitals in which such injections were not used. As to the use of antiseptics in general for obstetric purposes, he believed that simple cleanliness was all that was necessary, and that the element of danger could not be ignored when chemical substances of great toxic power were introduced into the cavities of the body.

The Surgical Treatment of Non-pedunculated Abdominal Tumors.—Dr. H. O. Marcy, of Boston, read a paper on this subject. After a brief review of what was known of the origin and development of cystic growths of the pelvis, the speaker stated that, developed from the deeper structures, these growths were of necessity inclosed with an investing covering of peritonæum, and that the method of treatment recommended years ago by Miner, of Buffalo, was of decided value. His method consisted in an enucleation by stripping the tumor from the peritonæum. Such a method was useful for all ovarian cystomata in which a pedicle could not be formed or was not necessary, but it had fallen into disuse and was almost forgotten. In the class of cases in which the growth had so broad an attachment that a pedicle could not be formed, a modification of Miner's method was recommended as one which had many advantages. It might be practiced as follows: After the cyst had been partially emptied of its contents the peritonæum was divided at a considerable distance from the base of the tumor and the latter was then enucleated. The bleeding vessels were temporarily secured and the peritoneal pocket thus formed was seized with large compression forceps and held by an assistant. The base was evenly sewed quite beneath the cyst attachment with a continuous tendon suture in double stitch, a long curved needle with an eye near the point and fixed in a handle being used for the purpose. This suture included all the tissue at the base of the sac, and, when properly placed, not only controlled hæmorrhage, but constricted without destroying the nutrition of the tissue. The superfluous structures were cut away to within an inch of the line of suturing, and the edges were then intrafolded and another line of continuous suturing made which should be parallel with the cut edges. This method of adjustment allowed of the replacement of the parts without strain or tension, and closure of the abdominal wound without drainage. The speaker recommended similar treatment for the uterus after removal from it of fibroid tumors, his first observation and studies of the subject having been published ten years ago. The principle of treatment in all these cases, whether the tumor be cystic or solid, rested mainly upon the use of the buried animal suture (tendon being preferred for many reasons). Thus we had an aseptic suture, aseptically applied, in an aseptic wound.

Hystero-myomectomy.—Dr. Howard A. Kelly, of Baltimore, read a paper with this title, calling attention to the best method of performing hystero-myomectomy in the case of pedunculated fibroid uteri. None of the other important questions relating to fibroid tumors were at present under discussion, neither the best manner of making a pedicle when none existed naturally nor the most eligible method of dealing with fibroids buried in the tissue of the pelvis. These and other important points were not to be touched, but he should speak of the simplest cases in which a pedicle already exists or is easily made. His plan included the following steps: 1. The long abdominal incision necessary to withdraw the fibroid. 2. The removal of the tumor from the abdomen and the constriction of the pedicle by the rubber ligature. 3. Cutting off the tumor while above the ligature, in such a way as to cut out the upper surface of the stump left behind. 4. The complete obliteration of the raw surface of the stump by the use of continuous buried sutures drawn tight enough to check bleeding, as well as to secure approximation. The uppermost row of sutures were interrupted and of silk, thus bringing together the peritoneal surfaces, and including about half a centimetre of the wedge-like margin of the lips of the incision. They were left long to serve the purpose of suspending the stump. In the fifth step, after this perfect approximation of the lips of the stump, the rubber ligature was cut, and, if any persistent oozing occurred between the lips, one or both uterine arteries were ligated in their course by drawing the stump to the opposite side and passing a needle boldly through its lateral surface well below the incision. A ligature thus introduced would control the uterine artery. If bleeding still continued, the opposite artery must be ligated. In the sixth step, after cleansing the abdomen and closing the upper part of the abdominal incision down to the stump, the stump itself was fastened into the abdominal wall by means of a running catgut suture, thus bringing together the abdominal peritonæum and the peritonæum of the stump, and encircling the stump just below the line of incision. In this way all wound-area was shut off from the abdominal cavity. The stump with its raw surface obliterated would now lie in the lower angle of the wound, covered in on both sides by skin and muscular tissue, which were not yet approximated. The pit thus left was packed full of dry gauze and the long ligatures were brought outside. The seventh step included the dressing which was applied by cutting a slit in several folds of gauze and bringing the interrupted long ligatures through the slit, clasping them in the bite of an ordinary long-nosed artery forceps. This should lie across the wound, suspending the stump and enabling it to resist any tendency to fall back into the abdominal cavity.

This method possessed very considerable advantages over any of the methods in use. It was far better than the intra-peritoneal method, where the dangers of sepsis and of concealed hæmorrhage were so great as to destroy a large percentage of the patients. It was better than the extra-peritoneal method, which left the rubber ligament *in situ* for the distal extremity to slough off, in that this method avoided the slough, which was dangerous as a septic focus and always uncertain in its extent. It was also more generally applicable than the extra-peritoneal method commonly used, because short stumps could sometimes with the greatest difficulty or not at all be dragged up high enough to attach peritonæum to peritonæum below the rubber ligature. The author felt confident that there was a great future for this simple and safe method of dealing with the stump, which he called the combined extraperitoneal and intraperitoneal method.

Fistulous Escape of Ligatures after Abdominal Operations.—Dr. Marie B. Werner, of Philadelphia, Pa., read a paper thus entitled. Various causes were adduced for this accident, among which were mentioned inflammation or septic condition of the wound, septic condition or too large size of the ligature, and injudicious use of the drainage-tube. The question was a practical one, and light was desired as to the best method of treating such an accident. A case was reported in which such an accident occurred, laparotomy having been performed for hydrosalpinx of one side, with extensive adhesions. A second laparotomy was required a few months subsequently for disease upon the other side.

Dr. Wathen observed that the question of suture material in abdominal surgery was one of the utmost importance, whether for wounds within the abdomen or for the wound of the abdominal wall. There was danger in using too large a suture as well as in using one which was not aseptic. The speaker believed that instrument-makers were often careless in preparing sutures, and that sutures prepared by means of chemical agents were too apt to be unreliable. As to the question of leaving one tube and ovary when they were apparently not diseased, he thought it unsafe and improper unless there was a very important reason that they should be retained.

Dr. Reamy believed that only those structures which were manifestly diseased should be removed.

Dr. Currier thought the surgeon had no right to assume that an apparently healthy tube and ovary would become diseased because disease had existed upon the opposite side of the pelvis. We should not anticipate such a condition. A secondary laparotomy was preferable.

Dr. Kelly believed it was wise to remove the tubes and ovaries from both sides if there was sufficient cause for removing them on one side. In several of his cases there had been fistulæ, with the escape of ligatures from the abdomen. Perhaps it was due to the use of too large a ligature. Catgut was believed to be the ideal material for ligatures, if one was certain that it was aseptic.

Dr. Meyer, of Fort Wayne, Ind., believed that the only essential condition concerning ligatures was that they should be aseptic. His preference was for silk-worm gut, as it was not likely to absorb septic matter.

Dr. Johnstone had experienced no difficulty with ligatures and sutures since he began the use of pure English silk. It was a pure animal fiber, and differed in that respect from silk of American manufacture, which, though of fine appearance, was frequently adulterated with hemp, flax, or jute. The pure silk ligature was non-irritating, and would be completely absorbed in eighteen months to two years.

Dr. Price thought that abdominal fistulæ, with the discharge of ligatures, were due to imperfect work. When removing a diseased tube, the ligature should be tied close to the uterus, all cheesy or purulent tissue being carefully scraped away. Catgut ligatures were not always absorbed, and might be discharged through fistulæ the same as silk ones. He did not believe the drainage-tube was responsible for the discharge of ligatures as a rule.

Dr. Van de Warker thought that when abdominal fistulæ occurred the opening should be enlarged and the surface scraped and irrigated, a drainage-tube then being introduced. The fistula might not have been caused by a ligature, but by septic infection from a drainage-tube.

Dr. Hoffman thought there was too much sentiment in regard to leaving a healthy tube and ovary behind. If disease in the first tube and ovary were due to infection communicated by way of the uterus, it was probable that the second tube and ovary would be similarly infected, though there might be no evidence of it when the laparotomy was performed. There might be pyosalpinx on one side and hydrosalpinx on the other. The latter would be very likely to become purulent, hence it was wise to anticipate such a result by opportune removal.

A Plea for the General Adoption of the Traction Forceps.—Dr. Joseph Hoffman, of Philadelphia, Pa., read a paper with this title. The forceps had a strictly logical indication, not as a means of saving the physician's time or because the patient desired its use. Dilatation being tardy or imperfect, the forceps was indicated, and was a conservative agent both for mother and child. Too often the forceps was used as a lever or tongs, and not for traction alone. In the ordinary forceps certain forces which acted through the fœtal body were lost. If there was malformation of the maternal pelvis, this loss of force was exaggerated. The aim should be to imitate nature and use traction in the axis of the pelvis. When this principle was carried out there was no danger of rupturing the perinæum, as might be supposed, for the traction rods worked nearly in a parallel with the blades of the instrument. The traction forceps might be used for either high or low operations. For the former it was far superior to the ordinary instrument, especially if the pelvis was deformed or the head had the occipito-posterior position. The speaker now used the traction forceps for all cases in which instrumental (*i. e.*, forceps) delivery was indicated. The force was applied at the center of the fenestræ, and here there was the greatest mechanical advantage.

Dr. Price thought the principle involved in the traction forceps had been the means of saving many lives. He objected to the principle of the Poulet forceps, the angulation being bad. The instrument could not be so readily controlled as either the Hodge or the Simpson, to either of which traction rods might be adjusted.

A Retrospect of Pelvic and Abdominal Surgery.—Dr. Joseph Price, of Philadelphia, Pa., read a paper with this title. Cases of abdominal or pelvic disease should not be referred to the general surgeon. The earlier such disease was treated by operation, the better would be the chance of success. A noteworthy change of view as to the justifiability of early laparotomies had been brought about by the recent history of the subjects of pelvic abscess and extra-uterine pregnancy. In former times the treatment of these conditions was mainly tentative and usually fatal. In the treatment of extra-uterine pregnancy morphine and electricity had been and still were used, but they resulted either in little benefit or in positive harm. Theoretical pathology should not be compared with practical surgery in such questions. Pain should not be the primary cause for a laparotomy. Conservatism did not always mean careful treatment, or experience, or success. So-called cures by means of electricity, hydropathy, or homœopathy were usually imaginary. The advocates of electricity either claimed to do everything, or made their assertions too indefinite. The diagnosis of abdominal and pelvic disease was too difficult to allow of positive statements before the abdomen was opened, complications being the rule, and constituting the greatest difficulty in operating, especially when all the viscera were fused together. Such work was only for skilled hands, and delays increased the danger. If a drainage-tube was used it should be cleansed frequently and removed as soon as possible. Opium should be avoided after laparotomy had been performed, if possible. If the kidneys were diseased, the use of opium would have an additional contra-indication. Silk was believed to be better than catgut for ligatures, and it should be of as small size as possible and aseptic. The results of the operations would depend upon the training, skill, and self-sacrifice of the operator, upon cleanliness, and not upon an elaborate array of instruments or paraphernalia.

Drainage in Abdominal Surgery.—Dr. George E. Shoemaker, of Philadelphia, Pa., read a paper on this subject. The subject was one which called for careful thought. The author had endeavored to ascertain the indications for drainage, the proper method to be employed, and the views of the most skillful operators upon this subject. Drainage was especially indicated if there were a suspicion of hæmorrhage or sepsis, and this notwithstanding the well-known absorbent power of the peritonæum. This function of the peritonæum was of great service if the fluids to be absorbed were aseptic, but if otherwise, harm would result. Drainage lessened the dangers in all such cases. The objections to the drainage-tube were the possibility of fistula from pressure upon the bowel, infection of the ligatures, and hernia. It should be removed if possible within forty-eight hours of the time of introduction. A fæcal fistula might result if ligatures of large size were used. The surroundings of the drainage-tube should be aseptic, and the tube should be covered with cotton. It was wrong to seal it with a cork. A straight tube with perforations in its sides was to be preferred. In general, drainage should be used in all cases in which there were intestinal or pelvic adhesions, in cases in which the peritonæum was manifestly diseased, and in cases in which for any cause irrigation had been required; in a word, in all cases in which there was doubt as to the aseptic condition of the abdominal or pelvic cavity.

Dr. Hoffman had used drainage in almost all his laparotomies. He had lost one case in which pus had escaped into the pelvis from failure to drain.

Dr. Meyer advocated drainage after all complicated and prolonged operations. He differed with Dr. Price in regard to his estimate of the value of electricity. The published cases of Keith showed that electricity might be of signal service for fibroid tumors.

Dr. Reed, of Cincinnati, had used the drainage-tube in all of the forty cases in which laparotomy had been performed in the Cincinnati Hospital since January 1st. In some cases the tube was retained only a very short time—perhaps not longer than an hour.

Book Notices.

De la chorée chronique. Par le Dr. E. Huet, ancien interne des hôpitaux de Paris (Saint-Louis, Bicêtre, La Salpêtrière), etc. Paris: Aux bureaux du Progrès médical, 1888–1889. Pp. 260.

This volume is the result of a study of sixteen original and forty-two collected cases of chronic chorea. The first chapter is a historical survey of the subject, and the question is therein discussed whether Huntington's chorea differs in any particular respect from chronic forms of ordinary chorea. The author quotes his master, Charcot, as not considering it an autonomous disease, but merely a variety of ordinary chorea. Separate chapters are devoted to the causes, symptoms, course, diagnosis, pathology, and treatment of chronic chorea. The author is a pessimist as regards the value of medical treatment in this disease.

BOOKS AND PAMPHLETS RECEIVED.

Leçons du mardi à la Salpêtrière, Professeur Charcot, Policlinique, 1888–1889: Notes de cours de MM. Blin, Charcot, Henri Colin, Élèves du service. Paris: E. Lecrosnier & Babé, 1889. Pp. 579. [Publications du Progrès médical.]

Stricture of the Rectum; Intestinal Obstruction; Inguinal Colotomy. A Clinical Lecture delivered at the New York Post-graduate Medical School and Hospital. By Charles B. Kelsey, M. D. [Reprinted from the Medical News.]

Twenty Consecutive Cases of Abdominal Section. By L. S. McMurtry, A. M., M. D., of Louisville, Ky. [Reprinted from the Transactions of the Southern Surgical and Gynæcological Association.]

Mental Action Material Action. By Elliott T. Brady, M. D., Marion, Va. [Reprinted from the Transactions of the Medical Society of Virginia.]

A Case of Fracture of the Temporal Bone, with Remarks on Trephining for Fracture of the Base of the Skull. By J. Collins Warren, M. D., Boston. [Reprinted from the American Journal of the Medical Sciences.]

Electrolysis in the Treatment of Stricture of the Rectum. By Robert Newman, M. D., of New York. [Reprinted from the Journal of the American Medical Association.]

Seborrhœa. By George Thomas Jackson, M. D., New York city. [Reprinted from Gaillard's Medical Journal.]

The Marine Climate of the Southern California Coast and its Relations to Phthisis. By P. C. Remondino, M. D., San Diego, Cal. [Reprinted from the Proceedings of the Southern California Medical Society.]

Large Doses of Iodide of Potassium. By Augustus A. Eshner, M. D., Philadelphia. [Reprinted from the Medical and Surgical Reporter.]

Some Reflections on Morning Sickness. By B. E. Hadra, M. D., Galveston, Texas. [Reprinted from the Times and Register.]

Medical Legislation. By Henry O. Holton, A. M., M. D., of Brattleboro, Vt. (Read before the Vermont Medical Society at its Semiannual Meeting, July 9 and 10, 1889.) [Reprinted from the Transactions.]

The Physician and his Neighbor. Address to the Graduating Class, Albany Medical College, Commencement Day, March 19, 1890. By Lewis W. Pendleton, M. D., Portland, Maine. [Reprinted from the Albany Medical Annals.]

Clinical Illustrations of Reflex Ocular Neuroses. By George M. Gould, M. D., Philadelphia. [Reprinted from the American Journal of the Medical Sciences.]

Helps in Practical Ophthalmic Work. By George M. Gould, M. D., Philadelphia. [Reprinted from the Archives of Ophthalmology.]

Ametropic Chorioido-retinitis ("Central Chorioiditis"). By George M. Gould, M. D., Philadelphia. [Reprinted from the Archives of Ophthalmology.]

A History of Spectacles. By L. Webster Fox, M. D., Philadelphia. [Reprinted from the Medical and Surgical Reporter.]

Ueber die Parakeratosen im allgemeinen und eine neue Form derselben (Parakeratosis variegata). Von Dr. Unna in Gemeinschaft mit Dr. Santi (Berne) und Dr. Pollitzer (New York). Sondern-Abdruck aus Monatshefte für praktische Dermatologie.]

Transactions of the Washington Obstetrical and Gynæcological Society. Volume II. October 7, 1887, to May 17, 1889.

The Eighteenth Annual Report of the Board of Directors of the Zoological Society of Philadelphia.

Fifth Annual Report of the State Board of Health of the State of Maine. For the Fiscal Year ending December 31, 1889.

Miscellany.

The Manhattan Eye and Ear Hospital.—The New York Evangelist of May 22d says: "We have often thought that the real glory of New York lies largely in her hospitals. Protestant, Catholic, and Jew, antagonists in some respects, are generous rivals in the divine art of healing the sick and relieving pain. To such perfection have buildings, appliances, and surgical skill been brought, that old prejudices against hospital treatment have passed away, and the rich as well as the poor, who suffer from certain types of disease as well as from injuries, seek relief at the hands of the eminent specialists who give their services to the hospitals of the city. The history of the genesis and development of many of these institutions would, if told, touch the heart and excite the admiration of every lover of his kind. In most cases it would be a record of heroic faith, persistent effort, and self-sacrificing zeal on the part of some philanthropic leader, in the face of difficulties of every kind, and especially in the face of the gigantic power of apathetic indifference. It has now become the custom to exhibit these hospitals as the pride of our city, but the admirers of them rarely learn the pathetic story that might be told of them as monuments to the courage, humanity, and wisdom of their founders. Some pen should be devoted to the generous task of telling this tale, doing justice to the noble men and women who have organized and developed the charitable instincts of good people.

"All this is suggested by the needs of one of these institutions, in writing of which we acknowledge that the needs of others have an equal claim on our consideration. We refer to the Manhattan Eye and Ear Hospital, founded by the late Dr. C. R. Agnew, and made the object of his constant care. This institution, because of its enlarged and growing usefulness, needs an immediate increase of its endowment During the year 1888–'89 the number of new patients treated was 10,366, and in 1889–'90 10,977, an increase of 611. For the past six months the increase has been 495. During the twelve months ending October, 1889, 1,686 children under nine years of age, many of them under two years, were treated at the clinic and in the wards.

"In the matter of daily visits, the increase so far this year has been 732, and in the matter of free board the increase has been 424 days. While this increase of work means a larger expenditure of money, there has been during the last six months an actual decrease in cash receipts of $3,133, due to various causes, but no doubt owing largely to the fact that Dr. Agnew is not here to influence gifts to the treasury of the hospital as he used to do; for, while he was a prince of givers himself, he was also a master in the art of securing gifts from others.

"The hospital endowment fund now amounts to $18,750, and needs to be increased to $250,000. The C. R. Agnew Memorial Fund now amounts to $11,891, and the directors aim to make it reach $100,000. Not till these amounts are raised will there be an income sufficient to avoid an annual deficiency. There is also an immediate need of $50,000 for the altering of the adjacent premises owned by the hospital into a laundry and quarters for the servants, for providing a new operating-room, for making additional room for patients, for paying off the present deficiency and floating debt, and for painting the interior of the hospital—greatly needed for sanitary reasons.

"More than fifty surgeons give their services freely to the special work of curing diseases of the eye, ear, throat, and nervous system. More than thirty directors, laymen, and surgeons give their time and influence to the care of the large interests involved in this noble charity. Both surgeons and directors confront the question 'How can the increasing demands of the poor who apply for indoor and outdoor treatment be met?' It is a question for others besides the surgeons and directors. Last year 10,977 patients were treated, 1,517 of whom were non-residents, coming from 415 different cities, towns, and villages—from Canada to the West Indies, and from Puget Sound to Maine. Shall this great work go on? Shall it go on with increasing power and usefulness? Let us help it. In the name of Agnew, in remembrance of his great skill, singular devotion to duty, and lavish generosity to the poor, let us help it. In the name of Christ, whom Agnew served in his profession as also in his heart, let us help it."

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for June 13th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y......	June 7.	1,615,303	821	..	..	..	..	..	..	3	13	23	37	13
Chicago, Ill..........	June 7.	1,100,000	375	..	..	..	..	..	..	16	2	7	1	14
Philadelphia, Pa.....	May 31.	1,064,277	304	..	..	..	..	..	..	6	4	10	..	4
Brooklyn, N. Y......	June 7.	859,612	360	..	..	..	..	..	..	4	3	25	3	7
Baltimore, Md.......	June 7.	500,343	294	..	..	..	..	..	..	2	1	1	8	1
St. Louis, Mo........	June 7.	450,000	196	..	..	..	..	..	..	1	2	2	..	1
Boston, Mass.........	June 7.	420,000	155	..	..	..	..	..	..	2	..	2	3	....
Cincinnati, Ohio.....	June 6.	325,000	142	..	..	..	..	..	..	1	..	7	2	....
New Orleans, La....	May 24.	254,000	153	..	..	..	..	..	..	..	..	..	3	1
New Orleans, La.....	May 31.	254,000	133	..	..	..	..	..	..	1	..	..	4	....
Detroit, Mich.........	May 31.	250,000	58	..	..	..	..	..	..	..	3	1	..	....
Washington, D. C ...	May 31.	250,000	116	..	..	..	..		..	2	..	..	..	....
Washington, D. C ...	June 7.	250,000	164	..	..	..	..	..	..	2	..	..	2	...
Cleveland, Ohio	May 17.	240,310	110	..	..	..	..	..	..	2	..	3	2	....
Cleveland, Ohio	May 24.	240,310	102	..	..	..	..	..	..	2	..	6	1	1
Milwaukee, Wis......	June 7.	240,000	50	..	..	..	..	..	..	1	1	1	..	....
Pittsburgh, Pa.......	May 31.	240,000	97	..	..	..	..	..	..	9	1	3	6	....
Kansas City, Mo.....	June 7.	180,000	49	..	..	..	..	..	..	1	..	..	..	....
Providence, R. I.....	June 7.	130,000	47	..	..	..	..	..	..	..	..	..	..	1
Indianapolis, Ind....	June 6.	129,346	35	..	..	..	..	..	..	1	1	..	..	....
Richmond, Va.......	June 7.	100,000	50	..	..	..	..	..	..	..	..	4	..	....
Toledo, Ohio	June 6.	92,000	34	..	..	..	..	..	..	1	..	1	..	....
Fall River, Mass.....	June 7.	69,000	25	..	..	..	..	..	..	..	..	..	..	....
Nashville, Tenn	June 7.	68,531	41	..	..	..	..	..	..	1	..	..	..	..
Charleston, S. C......	June 7.	60,145	34	..	..	..	..	..	..	..	..	..	..	....
Manchester, N. H....	June 7.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.........	June 7.	42,000	9	..	..	..	..	..	..	..	..	..	..	1
Galveston, Texas	May 23.	40.000	9	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas....	May 30.	40.000	9	..	..	..	..	..	..	..	..	..	1	....
Council Bluffs, Iowa.	May 31.	40,000	5	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y...	June 7.	35,000	12	..	..	..	..	..	..	..	..	..	2	....
Altoona, Pa..........	May 24.	34,397	13	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y........	June 7.	26,000	6	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass..	June 7.	22,011	1	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill......	June 1.	16,000	6	..	..	..	..	..	..	..	..	1	..	....
Pensacola, Fla.......	May 31.	15,000	4	..	..	..	..	..	..	..	..	..	..	....

The Periostitis of Mother-of-pearl Workers.—For some reason which remains obscure, notwithstanding the careful investigations of Gussenbauer and Englisch, men and women engaged in working at mother-of-pearl are subject to periostitis, which attacks several bones at once, and is very prone to recur. This malady has been seen both at Vienna and Berlin. Dr. W. Levy has published some fresh observations on the disease in the Berliner klin. Wochenschrift. He has noted five cases within four years in Berlin, where about three hundred mother-of-pearl workers are employed. These workpeople are nearly all adults. The patients were from twenty-one to thirty-one years of age, and all five had worked over five years at the trade in question. In the first patient the inferior maxilla was attacked; in the second the left clavicle, and afterward the lower jaw; in the third the right metacarpal bones; and in the fourth the lower jaw, and afterward the lower part of the right humerus. The fourth patient had been fourteen years engaged in mother-of-pearl working. During his first year the right scapula was attacked, and two relapses followed in the course of the two succeeding years. Four years later periostitis occurred in the right superior maxilla and the right clavicle. Afterward the left side of the lower jaw, the left metacarpals, the right femur, and the left tarsal bones were involved.—*Brit. Med. Jour.*

Woolen Clothing in Phthisis.—"Dr. Grechko has examined the effects of supplying phthisical patients with woolen clothing. He finds (St. Petersburg Dissertations, 1888–'89, No. 44) that the loss by the lungs and skin is greatly increased only during the first twenty-four hours; the temperature of the skin is distinctly increased during the first day, but after that it begins to fall slowly, so that by the end of the week it has become normal. The internal temperature and the blood pressure do not undergo any change."—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

SUCCESSFUL BRAIN GRAFTING.

By W. GILMAN THOMPSON, M.D.,

PROFESSOR OF PHYSIOLOGY IN THE NEW YORK UNIVERSITY MEDICAL COLLEGE; VISITING PHYSICIAN TO THE PRESBYTERIAN AND THE NEW YORK HOSPITALS.

Attempts have been made to graft nearly all the different tissues of the body. Skin, bone, teeth, muscle, nerves, glands, eyes, mucous membrane, etc., have all been grafted with more or less success, but successful brain grafting has not heretofore been performed. With the exception of skin grafting, and possibly mucous-membrane grafting, the results of such experiments have been of little practical value. They are, however, of great scientific interest in demonstrating the relative vitality of different tissues and the histological changes which accompany degenerative processes. The laws of atrophy and final disappearance of disused organs, so ably advocated by Darwin, are equally striking with regard to individual tissues and cells, and it is a well-recognized fact that the higher the original development of a tissue or cell has been—*i. e.*, the more it has been differentiated or specialized from the amœba type—the more profoundly is it affected by alterations in environment or nutrition, so as to degenerate completely, or be replaced by some form of tissue like the connective, which is of lower development but stronger vitality. The result ot nerve grafting and of nerve suture after complete section have varied greatly in the hands of different operators, but, despite many discouraging failures, there is no doubt that in man, as well as in the lower animals, nerve fibers may reunite when sutured even after secondary degeneration has occurred, and they exhibit restoration of function. For this to occur, however, the nerves must be in communication with some trophic center. Nerve grafting does not succeed so well as nerve sutures in favorable cases. It occurred to me recently, while studying cerebral localization in the lower animals, that it would be interesting to graft a piece of brain tissue from one side of a dog's brain to the other, or from one animal's brain into another's, and study its vitality. Of course, I had no expectation of being able to restore abolished function by the operation, but the question of vitality of the brain tissue and the course of its degeneration is a subject which is of very wide interest. The first experiments were preliminary, made in order to ascertain whether the transplanted brain would be immediately absorbed or would slough away.

Experiment I.—Two large dogs, A and B, were simultaneously trephined over the right occipital region; 8 c. c. of brain tissue were excised in one piece and exchanged; the piece from dog A was put into the opening in the brain of dog B, and *vice versa.* On the third day both dogs were killed, and the transplanted pieces of brain tissue looked normal, and in each case they were so adherent and firmly covered with fibrous exudation that it was impossible to pull them off with forceps without laceration. Total blindness of the eye opposite the lesion resulted in each dog, as was expected.

Experiment II.—A cat and a dog were simultaneously trephined, and 3·5 c. c. of brain tissue were removed from the dog's left occipital region and transplanted into an opening of the same size in the cat's left occipital region. Three days later the cat was killed. The transplanted dog's brain was found where it had been placed, firmly adherent to the cat's brain by a layer of fibrin, which varied from one fourth to half an inch in thickness. The cat was, of course, totally blind in the right eye.

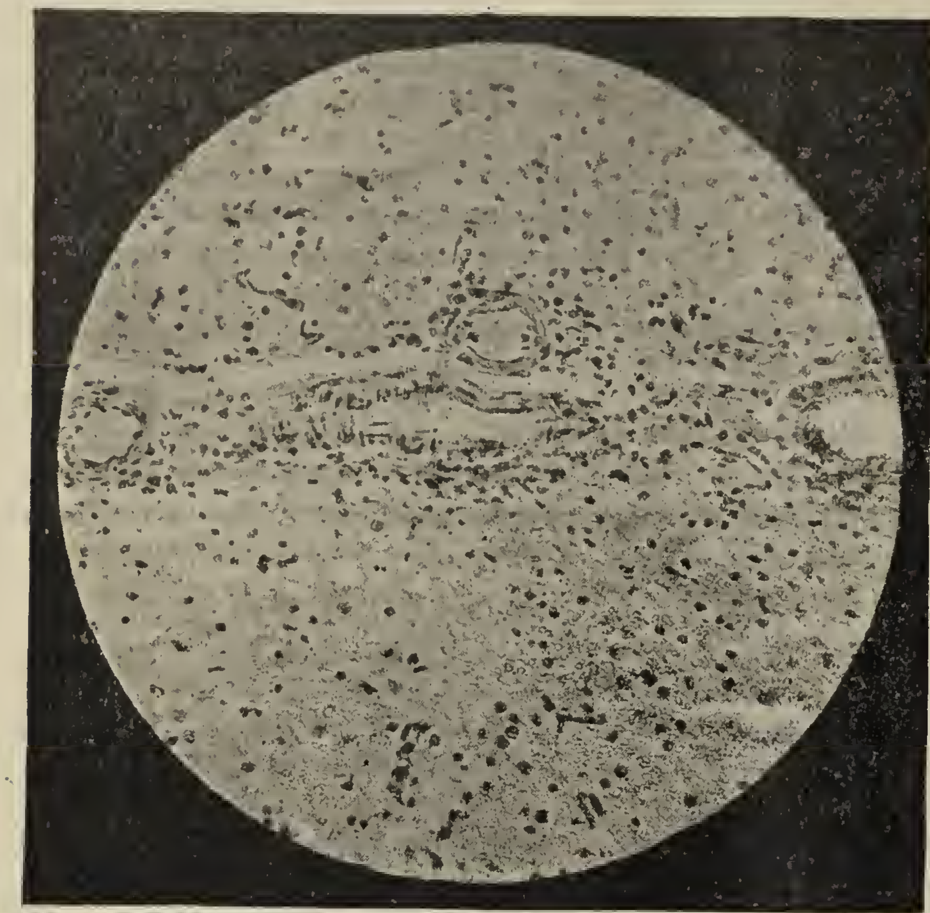
Experiment III.—Another cat and dog were simultaneously trephined; 4 c. c. of brain tissue were excised from the dog's right occipital region and replaced by an equal quantity of cat's brain from the same region. On the fourth day the cat's brain was found adherent to the dog's by a layer of fibrin.

No microscopic examination was made in connection with these experiments, as it was intended only to determine the possibility of the transplanted tissue adhering. Being satisfied in regard to this matter, I secured a large dog and performed

Experiment IV.—A half-inch trephine was used and a button of bone was cut nearly through over the left occipital region, leaving a small attached margin so that the button could be elevated and then depressed like a little trap-door. Through the opening 2 c. c. of brain tissue were removed. A cat was simultaneously trephined and 1·5 c. c. of brain from her left occipital region were transferred in eight seconds to the opening in the dog's brain. The trephine opening was closed by the button, and the wound, which had been opened under careful antisepsis, was closed and dressed with layers of antiseptic gauze wet with thick collodion, which is the only practical dressing for brain operations on dogs, because they can not tear it off. The dog was totally blind for the eye opposite the lesion, and so remained until his death. He was, unfortunately, not tested as carefully in regard to the other eye. He was very dull—a street mongrel—and it did not occur to me to do more than test the vision of the eye opposite the lesion (which I have invariably found absent in such cases, with normal vision on the side of the lesion). As the autopsy showed, however, there was secondary degeneration of the opposite occipital region, which must have progressed far enough to have greatly impaired the vision of the left eye. The dog made a good recovery from the operation, although he was very feeble for a few days and had to be fed by nutrient enemata. Subsequently he appeared normal in every way, excepting the loss of vision. He was killed at the end of seven weeks, when the piece of transplanted cat's brain was found firmly adherent to the dog's brain, with the pia mater intact. The brain was hardened in Müller's fluid for some weeks, and the following report of its examination has been kindly furnished me by Mr. Warren Coleman, assistant in the Physiological Department of the Loomis Laboratory, who prepared specimens of the brain for microscopic demonstration:

"*Gross Examination.*—The cerebral hemispheres measure 5·2 ctm. in breadth, 5·5 ctm. in length, and 3·5 ctm. in depth. The cerebellum was 3·5 ctm. broad and 2·9 ctm. deep through the medulla. The portion of brain transplanted now measures 1·9 × 0·5 × 0·5 ctm. It was grafted into the middle of the second occipital gyrus, its long axis extending outward and backward and involving a small part of the third occipital gyrus. The surface of the brain over the transplanted portion was somewhat shrunken. At a corresponding point in the opposite (right) hemisphere there appeared to be degeneration extending somewhat farther forward.

"*Microscopical Examination.*—The whole of the transplanted tissue was removed, together with a surrounding zone of dog's brain. This tissue was imbedded in celloidin, and vertical sections were cut in various parts. The vitality of the transplanted tissue has been maintained throughout, except at its inner extremity; here degenerative changes are well marked.



Micro-photograph of a brain graft. The upper half of the picture reproduces a section through the cat's brain; the lower half, a section through the dog's brain; the connective tissue uniting the two crosses the median line. Three large blood-vessels are seen in transverse section, and one (in the center) in longitudinal section. On the right center the line of union is very perfect, there being a minimum of connective tissue here, and the two varieties of brain seem fused together. On the left center, just above the line of union, a slight tear was made in the cat's cortex in preparing the section; this was unavoidable, in order to get the section thin enough for photographing. In all the other sections no such tear exists, and the line of union of the two brains is as perfect as it is seen to be on the right of this photograph. The picture is not magnified to show detail; it is merely intended to present the relative thickness of the line of connective tissue and some of the larger nuclei and blood-vessels. (For this photograph I am indebted to the kindness of Dr. H. S. Stearns, instructor in the Pathological Department, and director of the Photographic Department of the Loomis Laboratory.)

The cells in this region are shrunken and irregular in outline, the protoplasm is granular, and the nuclei either stain very badly or refuse to take up the stain at all. In other parts the cells are intact, but their outline is somewhat irregular. From the surface of union of the two brains lines of degeneration extend down into the dog's brain, along the margin of which are seen cells larger than those found elsewhere. Many of the cells observed show beginning atrophic changes; these might be due, however, to the hardening process. Their nuclei are situated eccentrically. Between the two kinds of brain tissue a narrow band of connective tissue has formed, which firmly unites the grafted cat's brain to the dog's throughout their entire contiguous surfaces. This is most marked at the middle and inner extremity, where it reaches the width of a dozen fibers. Along its line numerous blood-vessels have developed, some of which are of considerable size. The transplanted cat's brain is covered with pia mater perfectly continuous with that over the dog's brain. This pia was transplanted together with the cat's brain. The vessels of the cat's pia are large and numerous; the pia itself is somewhat thickened.

"The examination of the corresponding portion of the opposite hemisphere of the dog's brain gives the following results: Degenerative changes here are very marked. A portion of the brain tissue and the pia covering it are entirely gone. The cells in the neighborhood are granular and their nuclei do not appropriate the stain. A little removed from the point of greatest degeneration the brain shows a reticulated structure from the absence of cells. Here there is extensive diapedesis of the red blood cells. In other parts of the section no red blood cells are to be seen, but the brain cells contain a deposit of brown granules, showing that the red blood cells had broken down with the formation of hæmatoidin. The vessels of this region are enlarged and actively congested.

"At no point am I able to trace any communicating nerve fibers or axis cylinders between the two varieties of brain tissue, although here and there the line of union of connective tissue appears so narrow as to make the two brains almost continuous in structure. While some of the cells of the cat's brain are completely degenerated, the majority of them are still quite distinct and in some the walls are yet visible. Many of them do not look at all different from any piece of cat brain tissue kept for some weeks in hardening solutions, as this one was."

The features of interest of this experiment are the facts that—

1. There is complete union, through organized connective tissue, of the contiguous portions of the two brains.

2. After seven weeks the cat's brain still maintained enough vitality to be distinctly recognized as brain tissue.

3. Brains of animals of two very different species were thus made to unite.

4. The cat and dog pias present perfect union as well.

5. There is a sympathetic degeneration of the corresponding convolutions upon the opposite side of the dog's brain. For this curious fact I can not account. I have never noticed it before, in as many as fifty operations upon this region of the brain of cats and dogs,* although I have sometimes seen removal of a part of the occipital region result in extensive softening of the entire hemisphere of the same side. The opposite degeneration in this case may possibly be a mere coincidence; if so, it is a very unusual and remarkable one. There was no meningitis to favor it.

6. There was descending secondary degeneration of the dog's brain on the side of the graft, as is usual in cases of simple excision of brain cortex; hence the cat's cortex had not succeeded in acting as a nutrient center for the dog's brain. (The microscopic specimens showing the line of union of the two brains were shown to several competent microscopists, who indorsed their appearance as herein described, so that there can be no question of the accuracy of the observation.)

I think the main fact of this experiment—namely, that brain tissue has sufficient vitality to survive for seven weeks the operation of transplantation without wholly losing its identity as brain substance—suggests an interesting field for further research, and I have no doubt that other experimenters will be rewarded by investigating it.

49 EAST THIRTIETH STREET.

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* W. Gilman Thompson and Sanger Brown, Experiments upon the Cortical Sight Center. Researches of the Loomis Laboratory, No. 1, 1890, p. 13.

A CLINICAL ESTIMATE OF THE POSITION OF CASCARA SAGRADA

AS A REMEDY FOR HABITUAL CONSTIPATION AND KINDRED DISORDERS.

By JOHN AULDE, M. D.,
PHILADELPHIA.

As an introduction to the remarks I have to make with a view to bringing before the medical profession the salient points to be considered in estimating the true position of cascara sagrada as a therapeutic agent, it will be appropriate to offer some preliminary observations. A study of the subject would be incomplete without some reference to its early history, including the opposition which has been met at every turn, together with a reference to the numerous varieties of the plant which have been introduced to take the place of it, but which must be regarded as spurious preparations instead of imitations. The fact that the product is not protected by patent, but may be prepared by any manufacturer, has doubtless prompted some to place upon the market preparations which do not meet the requirements of the genuine article, and instances have occurred where the failure to obtain results as anticipated was shown to be wholly due to sophistication or substitution of an inferior article. That these incidents have had the effect of creating and fostering bitter controversies can now no longer be questioned; but a calm and dispassionate investigation, it is believed, will result in many cases in having the question reopened, which must eventually lead the more advanced and intelligent members of the profession to adopt more liberal and broader views in relation to this important remedial agent. The object of the present paper is not, therefore, to increase the number of ailments to which cascara is applicable, but to indicate more precisely the special conditions demanded for its exhibition, such as are naturally deduced from a study of its pharmacology in the light afforded by its chemical composition, its physiological action and toxicology, coupled with modern views upon therapeutics.

In this connection, however, it should be observed that the time of many physicians does not permit them to read exhaustive papers, taken up largely with details that do not have a direct bearing upon therapeutics; and, moreover, space in medical journals should not be monopolized with a discussion of one remedy to the exclusion of others which may possess equal value, although in another direction. The interests of the general practitioner will therefore be best subserved by confining the discussion to those matters which have a practical bearing upon the treatment of disease. Whatever success may attend my efforts will depend largely upon the interest physicians take in the subject in hand, and can only be determined by time.

Rhamnus Purshiana, better known in this and foreign countries as cascara sagrada, or sacred bark, is obtained from a tree indigenous to California. For many years previous to its introduction to the medical profession its virtues as a domestic remedy for the relief of habitual constipation had been well known, but not until 1877 were any attempts made with a view to determine its value from a scientific standpoint. The career of the drug has been attended with bitter warfare and misrepresentation, like other important discoveries; but, in spite of the adverse reports which have been circulated as to its therapeutic virtues, the fact remains that it is one of the most popular remedies of the times, and is largely used by physicians, not only in this country, but abroad, and with satisfaction. This popularity has been, in one sense of the word, unfortunate; it has led to attempts on the part of unscrupulous manufacturers to prepare combinations of other drugs which should produce effects similar to that produced by the true drug; the scarcity of the genuine article has also led to the preparation of a product from some of the numerous varieties, sometimes carelessly, and at other times intentionally, selected, with a view to supplant the genuine product. As previously intimated, sophistication and substitution appear to have been the order of the day, showing that human life forms no barrier to the restless activity for gain. Like some other drugs which are now so highly appreciated on this side of the Atlantic, cascara received its first official recognition in Great Britain, having been regularly adopted in the issue of the British Pharmacopœia some years ago.

The history of this drug teaches a lesson. The evidence gleaned from authentic sources is overwhelmingly in its favor as a theraputic agent, unequaled for the purpose for which it has been recommended, while the reports of failures come from those who have not given the matter proper attention, or who have lacked that peculiar faculty in diagnosis so necessary to the successful physician. Unfortunately for them, too many of the criticisms have come from those suffering from inactivity of their own intestinal mucous membranes, as suggested by Dr. Beale. Had they proceeded to investigate the matter *in propria persona*, with a view to stimulating the glands of the alimentary tract, it is but reasonable to suppose the evidence would have materially differed from that which has been offered. How unfortunate that critics should assume to teach from an elevated pedestal which rests upon so insecure a foundation!

Botanical Origin.—Rhamnus purshiana, De C. (*cascara sagrada*), is the name given to a small tree indigenous to the Pacific coast of North America, named after the celebrated botanist, Pursh, who in 1814 first described it and determined its botanical position. It differs from other indigenous species, of which there are many, in being larger and bearing larger fruit, which occurs in the form of a round, black berry, about a quarter of an inch in diameter. The bark is the only part used in medicine, and this has been subjected to a careful microscopic examination by Professor A. B. Prescott.

Chemical Composition.—Investigations, inaugurated with a view to determine the chemical composition of cascara, have been rewarded by the discovery of tannic, oxalic, and malic acids, a fat and a volatile oil, a glucoside, glucose, wax, starch, traces of ammonia, and, in the fresh bark, a ferment which, it is believed, is peculiar to *Rhamnus purshiana* alone. The latter is supposed to belong to the class of unorganized ferments, which includes pepsin, diastase, etc. From the glucoside the bitter principle is derived, although itself devoid of bitterness, and as this bitter substance is produced or, we might say, evolved in the presence of the normal gastric juice, and is presumed to be responsible for the griping which follows the ingestion of large doses, an attempt has been made to meet this objection by its elimination. While this chemical process deprives the product of its most objectionable feature, there is no apparent deterioration of the activity of the drug, which is thus made palatable and at the same time free from the special characteristic of all laxative and purgative drugs. Close observation on the part of clinicians has also shown that the fresh bark is especially prone to create disturbances in the alimentary tract, and, for the purpose of obviating this difficulty, chemistry comes to our aid and points out that by keeping the bark in stock for the period of one year or longer this untoward effect may likewise be overcome.

General Action.—The general action of cascara sagrada is that of a laxative as regards local influence, and an active deobstruent through its influence upon the blood and tissues, and, probably to some extent, indirectly through the nervous system. Undoubtedly there are indications of an indirect influence upon the liver, the functions of this organ being heightened by the mild laxative effects produced. Our views regarding the therapy of laxatives and purgatives must be modified, however, to explain in a satisfactory manner the marked benefits resulting from the use of cascara sagrada in comparatively small doses. The exhibition of calomel, in small doses at short intervals, apparently supplies us with a fitting illustration of the true pharmacology of cascara. While the calomel is, in a general way, an hepatic sedative, it is not a physiological sedative as we understand the term at the present time.

It may be assumed, for the purpose of illustration, that the sedation produced by calomel relieves the hepatic tension just as nitroglycerin does, although through a different train of nerve manifestations, or as gelsemium relieves the cerebral tension under certain conditions. Calomel possesses the property of favoring the excretion of bile subsequent to its formation in the liver through its indirect influence as a purgative. Whether or not the physiological activity of the liver is increased or diminished is still an unsettled question, but from a therapeutical standpoint it is a question of no great practical importance. This conclusion seems to be warranted, since it is unreasonable to suppose that any drug, or combination of drugs, can be relied upon to convert the liver into a dredge for the removal of bile from the blood. Physiological laws make any such attempt appear absurd in the extreme.

Ipecac increases in a most decided manner the discharge of bile from the gall-bladder, and doubtless, to some extent, it increases the physiological activity of the liver, both through its action upon the blood when distributed through the tissues, and through its influence upon the nervous system; but ipecac does not, like calomel, decidedly augment the discharge of bile by reason of any purgative effect, except, of course, that which is dependent upon the presence of an increased quantity of bile in the intestine.

From the standpoint of the clinician, cascara seems to possess certain properties which bear a striking similarity to the properties belonging to both ipecac and calomel. As regards its influence upon the blood, cascara accomplishes more than ipecac, but it is less a stimulant to the hepatic function than that drug—a loss which is in part made up by its laxative effect, in which respect it strongly resembles calomel.

The idea intended to be conveyed may be conveniently illustrated in the following manner: Take an ordinary quart vessel; let it be divided into three equal portions; it may thus be used as a basis for a rough estimate. The amount of bile secreted by the liver in twenty-four hours here is represented by one quart. The average estimate is rather over than under this quantity, but if this amount reaches the intestine daily, the following apportionment will suffice: The first third goes toward completing intestinal digestion by acting upon the starchy and fatty food-substances; the next portion is applied as an irritant, and by this means the vermicular or peristaltic motions of the gut are kept up. Through this agency the refuse portion of the food, together with the excrementitious materials thrown off from the system, are eliminated. The third portion is reabsorbed and carried direct to the liver through the portal circulation, there to be resecreted from the blood and again poured into the intestine.

When constipation exists, therefore, it will be apparent that two thirds of the normal quantity of bile is daily reabsorbed, and it is not surprising then the long list of ailments which attend upon the condition known as "biliousness." We are now in a position to understand the apparently good results immediately following the exhibition of drastic purgatives, but, unfortunately, the physician of a generation ago failed to calculate the bad effects resulting from this practice. The irritation set up in the intestine induced constipation, and at the same time, through reflex causes, the physiological activity of the liver was impaired. As a consequence of this method of treatment, there was a spasmodic demand for purgatives, and, while admitting their usefulness in certain conditions, as in the removal of septic material, but few modern physicians are willing to adopt the plan as a general routine practice. Science condemns it, and our common sense rebels against measures at once so antiquated and unsatisfactory.

Brunton classes cascara as a simple purgative, with aloes, rhubarb, and senna, but of course it is a well-known fact that all of these substances vary in their method of producing effects upon the system. In small doses, repeated at short intervals, cascara is a laxative; but little, if any, griping is produced, and, unlike rhubarb, it is not astringent when used in this manner. On the contrary, the judicious use of the drug seems to favor the return of the healthy secretions of the entire alimentary tract, and, as a consequence, the stools are large and soft in consistence, and that peculiar burning sensation caused by the exhibition of aloes is altogether wanting. While aloes increases secretion from its irritant action, cascara more nearly imitates nature, the watery portion of the blood being removed from the system, thus lessening the tendency to pelvic congestions.

Preparations.—The number of preparations of this drug has been greatly increased of late, to say nothing of the combinations which have cascara as the active ingredient. It would be out of place to refer here to all of these preparations, and only for the purpose of adding to the practical character of the paper will the best known and most popular of them be mentioned. The suggestion is here interpolated that the physician who expects the most satisfactory results will take the precaution to determine the character of the preparation by personal investigation. Not only is it requisite that the supply should be secured through the medium of well-qualified collectors, but proper care must be exercised in the preparation of the crude drug after the bark has been properly cured.

Fluid extract of cascara sagrada is the form in which the product was originally offered to the medical profession in 1877. It served as the basis for the experiments and investigations of nearly all the physicians of the United States, Europe, and Australia, and, with the exception of the complaint in regard to the peculiar bitter principle, previously referred to, the observations were eminently satisfacfactory. To certain persons this bitterness is altogether unobjectionable, and some go so far as to assert that it is quite as agreeable to the palate as strong coffee, although when it is desired to produce this effect the substance must be well diluted with water.

Fluid extract of cascara sagrada (tasteless) is the name given to a fluid extract made at a time when it was supposed that a real tasteless product could be manufactured, stated on the label "Formula of 1887." The idea of making a tasteless fluid extract was found not altogether practical, and, although the so-called tasteless preparation appears to answer the purpose generally, the manufacturers do not feel warranted in stating that the ordinary fluid extract is wholly displaced thereby, as instances have occurred where recourse to the original formula produced results which were unattainable by the formula of 1887. The latter, however, seems to be well adapted to the treatment of women and children, and for use in the case of those who especially dislike bitter medicines.

Cascara cordial is practically an elixir, the active principles being cascara sagrada and *Berberis aquifolium*, combined with aromatics. This preparation is intended to take the place of the fluid extract, and presents cascara in as palatable a form as can be secured, although practically it has been found impossible to prepare the cordial in such a manner that it will remain permanently palatable when the fluid extract alone is used. The formula for this preparation has undergone several changes, but, as now manufactured, it is published, and can be found in the literature upon the subject. A word should be added to the effect that the combination with berberis seems to enhance the value of cascara in a large number of cases, and, taken with its palatability, the smallness of the dose, and the reliability of the preparation, appears to supply the necessities of the general practitioner more fully than any other form in which it is offered, although it is not pretended that it fully represents the full action of the drug.

Capsules of cascara sagrada (elastic) have been prepared for the class of patients who object to the taste of all medicaments. The cascara is exhausted in the usual way and condensed into the form of a solid extract, so that each capsule contains the exact dose the same as a pill. These capsules, possessing the elasticity of gelatin, are more easily swallowed than a pill or hard capsule, and, being readily dissolved in the stomach, this form of using the drug has become quite popular, although it is more expensive than when the ordinary fluid extract is used.

Each of the foregoing preparations will be selected by the physician according to the demands or the whims of his patient, and, when given under proper conditions, the results may be calculated with a reasonable degree of certainty, although due allowance must be made for idiosyncrasies and for complications which may enter into the therapeutic diagnosis. The suggestion is also made here that certain combinations will often be desirable, and while they can not be all named, the following, as indicating the line of study, are added: Cases of rheumatism are often benefited by a combination with sodium salicylate, or with *Rhus toxicodendron*, as will be pointed out later on, while the addition of fluid extract of prickly ash and nux vomica will often materially act as synergists to the drug under consideration.

Therapeutical Applications.—While the range of usefulness of cascara sagrada is not so extended as some other drugs, its therapeutical applications do not end with its exhibition for the relief of habitual constipation. This malady, as often seen by the general practitioner, is but the local manifestation of a disordered nutrition of one or more organs, or a combination of disorders which have the effect of depressing the nervous system. It has already been noted not only that cascara has a local action upon the intestine, but that it has a constitutional effect through its influence upon the blood and upon the nervous system. To me the idea of using a drug possessing the sterling qualities of cascara simply as a laxative for its local action, which is more in the nature of a mechanical action than anything else, seems to be too narrow and restricted for the intelligent physician of the nineteenth century. When one has witnessed transformations in patients which are only short of marvelous from the use of cascara and combinations therewith, he begins to experience a comforting sense of satisfaction which fairly comports with the self-complaisance of the ascetic worshiper as he bends the knee before his shrine.

The objections to the use of intestinal irritants for the purpose of producing purgative effects has already been considered; it is radically wrong in principle, and may not infrequently prove the cause of a premature decline of the vital powers, especially in the case of elderly persons. For this reason, probably, the employment of cascara has been highly praised as a remedy for the treatment of habitual constipation in this class of cases. The value of laxatives which, like cascara, do not produce astringent effect has been emphasized, and it remains to point out some of the complications to be met and overcome in relieving these cases.

Aside from the general depression of the physical system from long-continued constipation, we have to contend with a like condition of the nervous system, and those who have given any special attention to these matters must be well aware of the influence exerted through a torpid condition of the glandular system. The function of the liver, pancreas, and the entire intestinal glandular system is below par, and there is intestinal indigestion with its attendant evils, both direct and indirect. The concomitants of this condition present themselves in the form of pelvic congestions in the shape of uterine engorgement and hæmorrhoidal tumors, and, indirectly at least, this condition favors the development of many diseases of the uterus and its appendages which the gynæcologists are actively engaged in trying to control. That cascara might be a useful remedy for the control of rheumatism, the pharmacology of the drug especially shows, providing that we accept the notion that rheumatism may be due to imperfect metabolism as related to the liver. That diarrhœa dependent upon congestion of the liver and alternating with constipation might be amenable to treatment by cascara, seems but a reasonable deduction.

As compared with rhubarb, cascara will take the precedence, owing to its being more nearly a drug which contributes to the establishment of a healthy function of the intestine; when placed in the balance with podophyllum, although less active as a cholagogue, the agreeable laxative effects of cascara are always to be preferred, unless we desire more immediate effects, and even then it is a question if the latter drug is not the more acceptable of the two in the majority of instances. It certainly is in the case of elderly and delicate persons and for children, unless the podophyllum is given in very small doses, as the objectionable effects often far outweigh the good that is accomplished.

Combinations have been suggested. I have already advocated the combination of cascara and *Rhus toxicodendron* in the treatment of hæmorrhoids with constipation.

℞ Tr. rhois tox.................. gtt. xij;
Cascara cordial.............. f ℥ iij.

M. Sig.: Take a small teaspoonful three times daily.

In case the fluid extract is preferred, the following formula will be found available:

℞ Ext. cascaræ sagradæ........ ʒ iij–iv;
Tr. rhois tox................. gtt. xij;
Glycerini,
Syr. Tolut., ...āā f ʒ ij;
Aquæ................q. s. ad f ℥ iij.

M. Sig.: Take a teaspoonful three times daily.

The tincture of prickly ash, prepared with Jamaica rum, combined with cascara, forms an excellent preparation. This tincture is prepared in the proportion of two ounces of the bark to the pint of Jamaica rum, and has long been a popular tonic with a number of practitioners of this city. The late Dr. Ellwood Wilson, whose practice was principally confined to obstetrics, used this preparation very extensively; and it is said that an irregular practitioner, who advertised extensively in Philadelphia, had for many years a princely income from the sale of this preparation alone; so great was the demand for it that he ordered it made in the quantity of a barrel at one time. The dose is one tablespoonful three times daily, and to this can be added five to ten drops of the fluid extract of cascara.

Dr. H. T. Goodwin, of New York, was the first to note the value of the drug in rheumatic affections (N. Y. Med. Jour., 1888, vol. xlvii, p. 629). Ten drops of the fluid extract three times daily he found was sufficient to quell the rheumatic pains in a short time, although in a few cases the action of the drug upon the bowels was too pronounced. In the latter cases a suitable preparation of iron is advised to be administered along with the drug, but not at the same time. It should be borne in mind that syphilitic cases do not show amenability to this treatment. The use of iron, when not specially indicated, may be obviated by the combination with *Rhus toxicodendron*, as indicated in the preceding formula. It will be observed that the cases of rheumatism which are most benefited are those which may be classed as subacute and chronic, where the hepatic function has long been below par, and, as a rule, where hæmorrhoids are of more or less frequent occurrence. Just as sciatica is the local manifestation of a rheumatic condition and a concomitant or sequela of constipation, so varicosities of the rectal veins (hæmorrhoidal tumors) may be regarded merely as another symptom of the same condition. And what is true of hæmorrhoids is practically true of attacks of quinsy or amygdalitis, although the latter disease, being more intimately connected with the stomach and liable to cause more disturbance of the nervous system, has its relationship overlooked. Either of the preceding formulæ accomplishes the desired results through the local action of the drugs, together with their influence upon the blood and the affected organs and tissues through the nervous system.

Amygdalitis, in the early stages, will often yield to the exhibition of sodium salicylate, thus showing the direct relation between the two maladies. Occasionally cascara will be found curative in rheumatism after sodium salicylate has failed, and for this reason it may often be advisable to combine or alternate the two in the treatment of amygdalitis. This combination of the two drugs was suggested by Mr. James P. Martin (Lancet, Sept. 1, 1888); but, of course, we must bear in mind the irritant action of cascara when given in large doses. This would be sufficient to contraindicate its employment in acute cases, while it might be of great service in the treatment of subacute and chronic varieties.

℞ Sodii salicylat................ f ʒ iij;
Ext. cascaræ sagradæ,
Glycerini, ... āā f ʒ ij;
Aquæ aurant. flor...... q. s. ad f ℥ iij.

M. Sig.: Take a teaspoonful every three or four hours.

The same advice was given by Dr. Goodwin regarding the use of the two drugs in combination, who reported cases treated in this manner previous to the publication of Dr. Martin's article (N. Y. Med. Jour., January 9, 1888).

The Dose.—The dose of cascara sagrada, like that of other drugs, is always determined by the results of clinical observation, and, owing to the numerous factors involved, no arbitrary rules can be laid down. It should be stated, however, in view of the fact that cascara is not advocated as a purgative or cathartic, but rather as a mild laxative, that the smallest doses which will produce appreciable results within a reasonable time are best calculated to overcome the morbid condition. In uncomplicated cases of constipation, where it is desired to test the virtues of cascara alone, the following formula will be found available:

℞ Ext. cascaræ sagradæ.......... f ℥ j;
Glycerini.......... .... f ʒ iv.

M. Sig.: Take twenty drops in water before breakfast.

It will be found in practice that this amount can be gradually decreased, and in young persons, or those who have reached middle age, the drug can be shortly discontinued. Elderly persons—especially those who have long been subjected to the aloes and calomel *régime*, and as a result, either direct or incidental, suffer from pelvic congestions or hæmorrhoids—will find it necessary to continue the drug at irregular intervals for some time. No one, perhaps, would be so unreasonable as to demand that the drug, while showing a favorable influence upon the course of hæmorrhoids, would have the power to cause their absolute disappearance; such mythical properties are not within the domain of scientific medicine.

In this connection it might be well to caution physicians generally against condemning a drug as a therapeutic agent unless convinced that the preparation employed is a proper representative of the medicament in question. Thus, a fluid extract may be prepared from a spurious drug; the strength of the extract may be greater or less than the standard, dependent upon a failure in the manipulation of the crude preparation; again, it may be a compound prepared theoretically, to meet what are supposed to be the physiological actions of the drug. So-called fluid extracts of cascara sagrada are now on the market which are evidently spurious, being prepared probably from buckthorn bark (*Rhamnus frangula*), in combination with aloes and strychnine; the presence of belladonna has actually been demonstrated in the case of one preparation. My observations having been confined to the products manufactured by Parke, Davis, & Co., who first placed it in the hands of physicians, and to whom we are indebted for the many improvements which have been introduced, I desire to emphasize the suggestion that the medical profession should look to these gentlemen for reliable preparations should they feel disposed to investigate for themselves the virtues of this remedy.

Criticisms.—Like other drugs, it can not be denied that cascara at times produces unexpected effects; but a study of some of these cases which have been reported will demonstrate that the untoward effects were not due to the drug as such, but might have occurred under similar circumstances in the use of other drugs with which we are quite as familiar as cascara.

A case is reported by Dr. R. O. Cotter (Atlanta Medical and Surgical Journal, March, 1888) in which a gentleman, aged sixty years, took a drachm of the fluid extract at night to overcome the constipation following a surgical operation; the same dose was repeated in the morning and again at noon, and was followed by an attack simulating cholera morbus, attended with great prostration. The fact that this dose is often taken without inconvenience shows that this marked influence was exceptional. Possibly it was due to the constipation, and the large dose repeated at such short intervals failed to act as a brisk purgative would have done under like circumstances. Instead of condemning the drug for this effect, it simply goes to show that cascara should not be used with the expectation that it will produce purgative action, but rather in small doses at short intervals, when it will produce laxative effects.

Dr. C. M. Fenn, of San Diego, California (Therapeutic Gazette, vol. xii, 1888), has not been favorably impressed with the effects produced by cascara, and advances the opinion that it must be used with great circumspection and care, a remark which applies with equal force to the employment of belladonna, nux vomica, cannabis indica, or any other vegetable poison. That Dr. Fenn failed to exercise that circumspection and care which he cautions others to observe will be apparent from an investigation of his report. An analysis of his paper shows that his observations have been superficial in the extreme, that the drug has been used without due regard to the condition present, some of the persons reported having taken it on their own responsibility or at the suggestion of friends. Of the six cases reported, only one can be accepted as showing a failure of the remedy when used alone, and this is so incomplete and lacking in detail that it would be unfair to include it in our estimate. No conditions are recorded, and we are only led to infer that the doctor prescribed; the fact is not stated. The full text is reproduced herewith: "A young miss of thirteen took from twenty to thirty drops of the fluid extract daily for a week. Increase of flatulence and abdominal tenderness made it necessary to resort to other measures."

It might be pertinent to inquire if cascara has been recommended for flatulence and abdominal tenderness without regard to their causation? Is it customary and considered good form to prescribe for merely symptomatic complaints the particular remedy which happens to be in popular favor?

The second case was that of a boy eleven years of age, whose attempts to take cascara on the recommendation of his friends proved fruitless, owing to the vomiting set up.

In another case the cascara was combined with belladonna, nux vomica, and glycerin (no dosage given), and had to be discontinued after the laxative effect was reached, because of the "heat and griping."

The next case was that of an elderly woman who had taken cascara to produce laxative effects, but this was attended with burning pain and traces of blood in the stools. Instead of these untoward effects being charged to the cascara, however, it is but fair and just to assume that "aloin, physostigma, and other medicines" employed to overcome the constipation previous to the exhibition of the cascara may have had something to do with the appearance of blood in the stools.

The other "two remarkable cases" were those of an old man and his wife who had been luxuriating (?) for days in the enjoyment of a tea made from the fresh bark.

It must be apparent, therefore, to the most obtuse observer that the evidence of Dr. Fenn must be set aside as not coming within the scope of scientific inquiry, except for toxicological purposes. The drug was used indiscriminately and even recklessly, as compared with the care and mathematical exactness which usually characterize our methods in the administration of medicines. But these failures which are recorded indicate to some extent the influence of the drug upon the nervous system, and a study of the direct and indirect effects, as advanced in the present paper, it is believed, will be sufficient to enable the general practitioner to determine with a reasonable degree of certainty the class of cases to which cascara is best adapted; and will also serve to establish in his mind the fact that the matter of dosage is one which must be very carefully studied in order to secure the best results, while avoiding the untoward actions of the drug.

Cascara cordial is a combination which seems to have a remarkable degree of popularity, and while my own experience has been eminently satisfactory, it will not be taxing the reader's patience too much to cull, from among the numerous reports published, some extracts going to show the estimate in which it is held by quite a large number of general practitioners. These gentlemen seem to possess such keen powers of observation as would entitle them to a respectful hearing, but none of them have taken the trouble to estimate the presence of berberis aquifolium as a factor in securing the results. The properties of this valuable drug I hope to consider at an early day.

Dr. Thomas J. Wheeden, of Brooklyn, N. Y., says: "In my career as a student and physician, a matter of twenty-seven years, I have never seen anything equal to it."

Dr. J. Harvey Lyon, of Mason, Mich., recounting his earlier experience with the cordial in the case of a gentleman suffering from chronic constipation where numerous remedies had failed, says: "He had more relief from the little phial than he had ever secured from the abundance of medicine that had cost him many dollars."

Dr. Edward F. Arnoux, of New York city, reports the case of a lady suffering from neuralgic headaches who was shortly relieved by the cordial, although arsenic, gelsemium, caffeine citrate, and purgatives, all had failed.

Dr. T. L. Wright, of Bellefontaine, Ohio, says: "From the observations that I have been able to make, the cascara sagrada, especially in the form of cordial, seems to me to afford better results in the constipation of elderly people than any other medicine that has come under my notice."

Dr. F. E. Stewart, of Wilmington, Del., expresses the opinion "that cascara sagrada is the most valuable laxative in the materia medica."

Dr. F. C. Herr, of Philadelphia, writing of cascara cordial, says: "Its salutary action on the gastro-intestinal secretions in morbid conditions of whatever character, its healthful action in promoting digestion, stimulating absorption, and improving nutrition generally, marks it for great favor at the hands of the medical profession."

The following are some of the more prominent indications for the exhibition of the cordial: An unobjectionable laxative; a vehicle for other remedies; constipation with dryness of the stools; constipation with hepatic torpor; constipation due to intestinal indigestion; habitual constipation due to reflex causes.

In general, it may be stated that the cordial is indicated in all cases where there is a demand for the fluid extract, but, owing to its agreeable character, coupled with its pleasant laxative effects, it may be administered to women and children and to those who have delicate stomachs, or those who, for any reason, dislike medicines.

1910 Arch Street.

The Fiske Prize Fund.—A prize of $300 has been awarded to Dr. H. A. Hare and Dr. Edward Martin, of Philadelphia, under the Fiske Fund of the Rhode Island Medical Society, for an essay on the treatment of wounds and obstruction of the intestines. The subject that will be open for competition for the prize of 1891 is disease of the hip joint.

CONSANGUINEOUS BREEDING

IN ITS RELATIONS TO SCROFULA AND TUBERCULOSIS.*

By E. F. BRUSH, M.D.,

MOUNT VERNON, N. Y.

In the propagation of young, the union of two distinct sexes is an essential requirement for the higher order of animals, and Mr. Herbert Spencer accounts for the formation of two sexes by the assumption that thus only can consanguineous unions be avoided. If it had been better that animals should be produced from one individual, and thus continuing to represent that individual and that individual alone, man and the higher orders of animals would have been created hermaphrodite or parthenogenetic. But in the great plan of nature we see, besides the different sexes, different groups or permanent varieties of the species, and breeds are the result of the mingling of these varieties in different proportions. Thus, in the human race, to avoid the repetition of a single individual, not only are there distinct sexes, but also distinct groups of the same species capable of mixing and reproducing their kind, and many of the races now existing are undoubtedly made up by mixture of two or more of the permanent varieties. The dominant race of to-day, the white race, shows distinctly that they are not derived exclusively from any one permanent variety, but must have been formed by the mingling of two or more of the permanent varieties, as evidenced by the existence in the same race of such different types as the blonde and the brunette, and of different temperaments, and the commingling of all these types in every conceivable gradation, as dark hair with light eyes, and light hair with dark eyes, red hair, and all kinds of varieties cropping out in the same family of children.

It seems to me that all those who have studied the subject of consanguinity have lost sight of this fact—that two individuals consanguineously related represent not only the immediate parents, but a certain mixture of the permanent varieties of their species. Thus some of the domestic animals that we know contain only two permanent varieties in the species, and it is from a mingling of these varieties that the breeds are made; and the permanency of these breeds depends on the amount of mixture of these varieties in each breed, as when one of these elements is bred out or attenuated, then the breed becomes scrofulous, sterile, and in every way deteriorated by the close consanguinity of one variety. And thus we find that animals more prone to scrofula, resulting from consanguinity, are those of the least number of distinct groups to the species; hence, in a few generations, if the mingling of the varieties has not been equal, one of them is bred out or attenuated to such an extent as to be almost entirely lost. Of course animals that produce many young at one gestation will show this deteriorating process sooner than a uniparous animal, because the debilitating effect of gestation must be greater. Thus the pig, a multiparous animal with two groups to the species, develops the scrofulous habit more readily than any of the other domestic animals. Next in order come the bovine tribe, a uniparous race, with two groups known at present, with a probability of other groups that have become extinct. These animals develop the scrofulous habit from in-and-in breeding, but not in so few generations as the pig does. According to this argument, the development of the scrofulous habit in man from close interbreeding would be remote, because there have been many permanent varieties of the human family; but there are in the human family many other deteriorating influences at work; alcoholism, syphilis, debauchery of all kinds have stamped their impress on the offspring, which is characterized sometimes only by the scrofulous habit and intensified by consanguinity.

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* Read before the Society of Medical Jurisprudence and State Medicine, March 10, 1890.

Questions relating to consanguinity and scrofulosis have received an immense amount of attention, and all kinds of conclusions have been reached; but, from the fact that scrofula is so slow sometimes in showing its results, except in the pig, in breeds that have resulted from the commingling of the groups of one species, even when the scrofulous habit has been thus developed, the positive diseases that follow this condition are not always developed, or developed at times only slowly, and so remote from the original primary causes that these causes are lost sight of. Tracing up the course of some of our specific contagious fevers, we are able to see the connection between the primary cause and the specific, and, these being so close together, we are always able to grasp the whole train of cause and effect. In scrofulosis, effects do not follow causes in the same number of cases where circumstances tend to develop the cause, as in the specific fevers, because scrofula is always a congenital condition and is not itself a disease, but a susceptibility to morbid conditions that are so uncertain and insidious that consequently the study of this condition is always misleading when small groups or limited areas constitute the field of observation. It is only in large masses of facts with numbers of living beings whose origin, pedigree, modes of breeding, and all other concomitant facts are taken together, that we can reach a clear solution of the connection between consanguineous unions and their train of diseases. Thus I have ascertained, taking the whole world as the field of observation, that human tuberculosis exists only in those communities closely associated with the inbred bovine species. This observation does not, of course, exclude the now acknowledged fact that bacillary phthisis can be conveyed from one human subject to another by contagion, because this is a part of the fact that the original contagion was derived from the bovine species; thus, where the inbred tubercular cattle are unknown, bacillary phthisis is also unknown.

I do not desire to discuss any of the questions relating to race problems, but, from several years of close study of the methods of cattle-breeding and their diseases, and of their intimate relationship to mankind, I am convinced that the bovine race is scrofulous, the result of close consanguinity, and tubercular from their scrofulous habit, and this fact is almost too well known to need the addition of any one's testimony, as a great majority of those who have studied the subject are agreed on this point. But I am thoroughly convinced, as I have said before, that the inbred bovines, by reason of their scrofulous habit and consequent susceptibility to tubercular disease, convey to the human race bacillary phthisis; that this danger can be avoided, and, to point out methods of protecting the human race from this source of infection, I would adduce the following argument:

As I stated in the beginning of this paper that the pig was more prone to evil results from consanguineous union than any of the other domestic animals, and that these evil results follow more closely the primary cause and therefore can be more easily traced, and the fundamental principles of the argument more simply and clearly demonstrated, I will commence with a few illustrations, gleaned from the best authorities on questions of breeding, respecting that animal.

This species can be divided into two groups, or permanent varieties—namely, the *Sus indicus* and the *Sus scrofa*—and all the different breeds are made up of these two different groups of the pig family. So distinct are these two varieties that Nathusius (quoted by Darwin) says that he can trace the infusion of one thirty-second or one sixty-fourth part of the blood of one of these groups into that of the other, in the bony formation. Darwin himself says: "With respect to pigs there is more unanimity among breeders on the evil effects of close interbreeding than perhaps with regard to any other large animal. Mr. Druce, a great and successful breeder of the improved Oxfordshires (a crossed race), writes: 'Without a change of boars of a different tribe, but of the same breed, constitution can not be preserved.' Lord Western was the first importer of a Neapolitan boar and sow; 'from this pair he bred in and in until the breed was in danger of becoming extinct, a sure result (as Mr. Sidney remarks) of in-and-in breeding.'" Mr. Darwin further relates that a Mr. Wright, a well-known breeder, bred a family of pigs in and in for seven generations; the number of pigs was reduced at each gestation, and of the offspring thus produced many were idiotic, without sense even to suck, and, when attempting to move, could not walk straight, till finally one sow was the sole offspring. She was the handsomest of the entire seven generations, but would not become pregnant by her sire, while to a stranger in blood she bred at the first trial. "Nathusius gives an analogous and even more striking case. He imported from England a pregnant sow of the large Yorkshire breed, and bred the product closely in and in for three generations; the result was unfavorable, as the young were weak in constitution, with impaired fertility. One of the latest sows, which he esteemed a good animal, produced, when paired with her own uncle (who was known to be productive with sows of other breeds), a litter of six, and a second time a litter of only five weak young pigs. Then he paired this sow with a boar of a small black breed, which he had likewise imported from England. This boar, when matched with sows of his own breed, produced from seven to nine young pigs; now the sow of the large breed, which was so unproductive when paired with her own uncle, yielded to the small black boar in the first litter twenty-one, and in the second litter eighteen young pigs; so that in one year she produced thirty-nine fine young animals. Colonel Le Conteur writes me that from possessing a fine breed of pigs he bred them very closely, twice pairing brothers and sisters, but nearly all the young had fits and died suddenly."*

All the above is taken from Darwin, who, of course, only quotes from the works of others; but the facts as stated are well known, and no successful breeder to-day practices close consanguineous unions in breeding his pigs. It would be very easy to compute the possibility of breeding out an infusion of one of the varieties where it existed only in the proportion of a third to the other varieties, with this close interbreeding, and it is also easy to understand how a cross with another breed or another family of the same breed would change the combination of the minglings of the two varieties.

That pigs are scrofulous from this close union is well known. The word scrofula is derived from the name of one of these groups, the *Sus scrofa*, and the name undoubtedly indicated the well-known fact that close consanguineous unions of these animals produced a constitutional condition resembling in all respects, at least as near as an animal can, human scrofulous diathesis; and, furthermore, the common people have noticed this resemblance and termed scrofulosis "swine evil." The reason why these animals show the evil results of in-and-in breeding more plainly and quickly than some other of the classes of domestic animals arises from the fact that there are only two groups of the species, and hence there is less possibility of modification than in the species with a larger number of permanent varieties. Thus I believe if a species of animal existed that was unique—that is, with no varieties—consanguineous breedings would be productive of more early evil effects than it is even in the pig, and probably some of the races that have become extinct were races that were so situated as to make it impossible to receive an infusion of blood from some of the other permanent varieties of these species.

Now, as a contrast to the pig, let us take the horse and the sheep. Neither of these animals is scrofulous, and in-and-in breeding can be carried on with them without the same apparent tendency to deterioration; neither are these animals subject to tubercular infection, with very rare exceptions. The breeds of domestic sheep are made up from eight or more permanent varieties; it is therefore easy to see how many admixtures of different bloods can be infused together to make the different breeds. Therefore the possibility of working out all the combinations by consanguineous unions would take a great length of time; and the same rule applies to the horse in his insusceptibility to scrofula and tuberculosis; but there are many other conditions associated with the horse under domestication that, of course, belong to the domain of heredity, such as spavin, ring-bone, exhaustion from overwork and severe strain, stomach derangements, etc., and these make the in-and-in breeding of horses sometimes unprofitable. Still consanguineous unions in the case of this animal are never productive of scrofula and its attendant train of disease.

All the foregoing facts, deductions, and suggestions will help us in our study of the main question. That question is, Can we prevent the development of scrofula and tuberculosis in the dairy cow and thus eliminate this disease from the human family? There is no other animal in creation that is so closely and intimately associated with some communities of the human race as the domestic cow. Her milk is one of the most absolute necessities for the nursery and the table in every household; every part of her flesh and the large visceral organs are consumed as human food; her blood is consumed by some communities. All civilized races of the present day acknowledge the utility of vaccine virus for the prevention of small-pox, and this virus is transmitted through the system of her calf before it can serve as a protective virus for the human system. Her hoofs and horns are transformed into the gelatin which constitutes one of the delicacies of the table and sick-room, her hair enters into the composition of the plasters on our walls, and with her hide we cover our feet. This animal has been bred to a twofold purpose—namely, to furnish us with milk and with beef; in breeding the dairy cow every other point has been lost sight of except the main function of a milk-producer. The well-known scrofulous forms in animals and the human kind are, unfortunately, the largest milk-yielders. Therefore in some of the noted milking breeds the form sought after by breeders is that which will correspond with the delineation of the characteristic form in scrofulosis given by Miller,* as follows: "The complexion is fair and frequently beautiful, as well as the features; the form, though delicate, is often graceful; the skin is thin and of fine texture; . . . the pupils are unusually spacious; the eyeballs are not only large but prominent; the eyelashes are long and graceful." Now let us contrast this description of human scrofula with Dr. L. H. Twaddell's description of a noted dairy cow. "The Jersey cow is of medium size; her peculiar deer-like aspect distinguishes her; . . . her head is long and slender, the muzzle fine, the nose is black, and the large, dreamy eyes encircled with a black band; . . . the limbs of the Jersey are very slender and fine; her neck is slender and rather long"; and Colonel George E. Waring, Jr., says he knows of no fault in the milking cow greater than a thick skin. Thus we have in the scrofulous human subject a beautiful form, a thin skin, large eyes, and the same characteristics as those found in the best milking form of the dairy cow. Scrofulous females in the human race usually secrete an abundance of milk, although they are not deemed the best nurses. Even Donne alludes to this fact and cites in his work on Mothers and Infants the case of a nurse that suckled the children of one of the most noted Paris physicians, and was recommended by him to other noted families, who, when examined by Donne himself, was found to be in a scrofulous condition. Of course, she must have given an abundance of milk to be thus recommended. I know, too, from my own experience, that scrofulous females, as a rule, secrete a larger quantity of milk than healthier ones. Although the scrofulous female with her abundance of milk would not be recommended as a wet-nurse, the beautiful scrofulous dairy cow is never declared contraband.

Let us now examine the pedigree and breeding of the dairy cow and see why this animal is scrofulous. The domestic breeds of the bovine tribe are made up from two permanent varieties of the species—namely, the *Bos longifrons* and *Bos primigenius;* these two varieties are distinctly identified, one as the large, the other as the smaller form, and the most noted dairy breeds belong to the smaller with very little of the larger breed intermingled, while the beef breeds belong to the larger form with more or less infusion of the smaller to make the distinctive breeds. Let us take one of the most noted dairy breeds we have—the Jerseys. These animals have been bred on the Channel Islands for several generations, without ever having received a cross from other breeds, and they were the only breed on the island of Jersey. These animals have now been distributed by exportation among breeders in various parts of the world, but the noted herds are still inbred in the closest possible manner.

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* Darwin, Animals and Plants under Domestication, vol. ii, p. 101.

* Principles of Surgery, p. 53.

I have several tabulated pedigrees of American-bred Jerseys, and will cite that of "Iduna." Through six generations the male parent, "St. Helier," himself an intensely inbred bull, has been the sire twenty-five times in her genealogy—that is, impregnating his own female progeny through twenty-five lines in descent. Animals produced by this method are truly delicate and beautiful and usually good milkers, and in other points fulfill Miller's description of the human scrofulous female. Now, scrofula is not always tuberculosis, but I believe that scrofula precedes tubercular infection. In this connection the following quotation from Hazard's book on the Jersey, Alderney, and Guernsey cow may be of interest: "Accordingly, some *good milkers*, and particularly old cows in which vital activity is constantly decreasing and systemic reaction becoming progressively more and more difficult, acquire a sickly appearance; the defective lymph is deposited in the form of tubercular matter so constantly found in the chest of old cows, the animals become phthisical, the organs of procreation become unhealthy; with more or less constant irritation of the ovaries, the cow becomes barren. With this irritation there is a periodic check to the secretion of milk; nevertheless, a very considerable flow still continues." There is little need for me to add that this milk sometimes finds its way to the nursery of a scrofulous infant. Now, no one denies that these intensely inbred Jerseys are notoriously tubercular; they are nearly all scrofulous, and it is notorious that this breed is subjected to the most intense consanguinity; and Walley, the best-known writer on bovine diseases, says in his book, The Four Bovine Scourges: "The breeds of animals that in my experience are most subject to tubercle are Alderneys, Guernseys (the latter in much less degree than the former), and short-horns among home cattle, and among foreign cattle the Danish." Now, we know all these breeds enumerated by Walley belong to the most closely inbred dairy and beef stock; among beef cattle the short-horns are the most intensely inbred. As a rule, these beef cattle do not show the same distinctive processes of the tubercular infection because they are not submitted to the drain of continual lactation as are the dairy breeds, and, moreover, are well fed and cared for, and butchered when they are between three and four years of age; hence they only show their true condition when opened by the butcher. Furthermore, to show that this scrofulous and tubercular condition is the direct result of consanguineous breeding, we will take a breed of cattle that enjoys an immunity from tuberculosis. Walley, the author above quoted, says: "The polled Aberdeenshires seem to be particularly exempt." Mr. Clement Stephens, chief veterinary inspector for Northumberland, states: "There is another and more valuable advantage these cattle possess—namely, their remarkable freedom from tubercular diseases. Of course I can not assert that it has never been in this breed of cattle (the Aberdeen), but this I can say: that, although I have had special opportunities for research, and have examined great numbers of cattle, both alive and post mortem, I have never yet seen a trace of it in this breed." Now, these cattle are not of an inbred breed. The rigorous climate of their native land and the lack of housing they receive make it impossible for the thin-skinned inbred animal to exist under these circumstances. The following is quoted from the Breeder's Gazette with reference to these animals: "The necessity of keeping a house over his head has prevented the Aberdeenshire breeder from following the caprice of fashion; the blue-blooded weed for which there used to be a kindness in some directions is dreaded beyond everything; the very blueness of his blood makes him dangerous." From the same source I quote the following from a correspondent who had seen these cattle and examined their thick coating of hair and protecting skin; and comparing them with the short-horns, he says: "But I now firmly believe that every one of those animals that have that peculiar soft handle (feeling of the skin) that I was taught by my brother in the short-horn world to so much admire, is tuberculosis in one or other of its stages. Up to the time that an animal is in the last stages of this fell disease I feel its handling would delight many of the best short-horn judges. We have bred too many of the short-horns to death." The great breeder of the polled Angus and the great authority on the breed, Mr. William McCombie, writes thus in his work on Cattle and Cattle-breeding: "To continue for any length of time to breed in-and-in is not only against my experience, but I believe against nature." I have also searched through the records of this breed and works relating to it, and I find none of them giving evidence of close inbreeding. We have thus the two ends of the cattle-breeding question—one, a small, intensely inbred and pampered breed, the predominating dairy cow, a true scrofulous animal and numerously affected by tubercle; the other, a large, hardy cross-bred animal, with all evidence pointing to a total immunity from tuberculosis.

Now, I have seen it stated many times that cattle that are tuberculous become infected from their attendants spitting and coughing around the stable. If this were at all an ætiological factor, we should find no breed of domestic cattle exempt, because they are exposed to the same or nearly the same class of associates with about the same degree of intimacy, and it would be very strange if one man to ten or twenty cows, even if he were phthisical, should be able to infect ten or fifteen per cent. of them by his coughing and spitting and they not affect him while he is drinking their milk, eating their flesh, and inhaling their breath. This is really not a part of the subject under discussion; I simply introduce it here while discussing these two breeds—the tubercular and non-tubercular.

I think there can be no doubt whatever that the in-and-in breeding of animals, with two or three permanent varieties only to the species, does produce a constitutional weakness, to say the least, that is not capable of resisting bacillary tubercular infection. Tuberculosis itself is rarely an inherited disease in the bovine tribe, where this disease is indigenous. I have myself examined many fœtal calves, whose mothers were dead from acute miliary tuberculosis, without ever finding the gross evidences of tubercular infection; so I think it safe to say that the rule is that the disease is not transmitted by inheritance, and consequently the best way to eliminate a disease of this kind, which we know must be preceded by a hereditary constitutional dyscrasia, is to breed animals, as we surely can do with our domestic cow, so that they will not inherit this scrofulous habit.

Of course, as I have said before, these two questions of consanguinity and scrofulosis are difficult to study, and can not receive their true interpretation from any few isolated cases or small groups of facts, and the only positive determination that we can arrive at is derived from the study of all the dairy breeds. In them we see that those which are habitually inbred are scrofulous, as a rule. I am aware that almost any one can adduce simple isolated cases showing that an inbred animal is not scrofulous or tubercular; but when the fact stands this way, that all the scrofulous and tubercular animals occur among the inbred varieties and not at all among those that are not inbred, the deduction to be drawn is obvious; and it is just this combination of facts that makes the study of consanguinity, scrofulosis, and tuberculosis so elusive. All the inbred animals are not scrofulosed, and all those that are scrofulosed are not tubercular; and thus, when we take the *one* breed that is notoriously tubercular, we find the facts, *pro* and *con*, as to the transmission of scrofulosis and the invasion of tuberculosis are of equal weight, or, if anything, the preponderance of evidence would be against the deteriorating influence of consanguinity; but when we have the breed that is exempt from these conditions, and observe that the only difference is that it is not inbred, then we account for the presence of less or more tuberculosis by the disturbing influence of consanguinity. And so with the study of tuberculosis beyond these questions of breeding. We find, to all intents and purposes, people surrounded by the same influences and exposed to the same degree of contagion and infection and only a small percentage acquire the disease. We have no doubt about many other of the contagious and infectious diseases, because effect and cause can be grasped at one time, and a majority of persons subjected to the same exposure in the same circumstances become infected. And so, then, we have to study this disease—tuberculosis—in the same manner in which we have to study consanguinity—that is, by taking whole communities or nations, as it were, and if we find in one country immunity from tuberculosis in the human race and no tubercular cattle associated with it, and in another community, notoriously tubercular, drinking milk and eating meat from domestic inbred animals, then we have the large aggregation of fact that points to but one solution.

Now, there can be no doubt in the minds of intelligent men as to the methods necessary to render the dairy and beef products safer for human food. The only conflicting element to what is an obvious and necessary reform would be that inexorable law of compensation. The present methods of breeding our best milk and beef producers have undoubtedly lowered the price of both these commodities, and with this lowering of price we have entailed on us the tax of disease. If, then, we wish to avoid this burden and breed our milk and beef animals with health as the ultimate aim, milk, at least, will be a far dearer commodity than it is at the present time, and so the question will be narrowed down to the simple one whether we shall pay eight or twenty cents a quart for milk. I am also aware that it is a very difficult matter to make a reform in the methods of cattle breeding that have been carried on for so many generations, and done very often by men who imagined that they were conferring great benefits on the human race. It will only be by constant agitation and by a constant arraying of facts, as I have suggested, from large areas and long periods, without ever allowing this important question to be narrowed down to individual or isolated cases, as such comparisons of a limited number of facts have always led to hasty, confused, and unsatisfactory conclusions when applied to such questions as those of consanguinity, scrofulosis, and tuberculosis.

If a sweeping reform is ever made, as I am convinced it should be, it will only be effected through legislative action, for I am convinced from my experience that our lives are not long enough to turn some of the cattle breeders from the error of improving, as they deem it, our dairy cows and some of the beef breeds of cattle.

"PINK-EYE."*

By JOHN HERBERT CLAIBORNE, M. D.

I know no better way of opening a paper on the subject of pink-eye than by describing the clinical features of the disease at the height of the attack. I shall describe the condition of the tissues in the order in which they lie, starting from without and passing inward.

The lids are swollen and red. The swelling and redness vary directly as the viciousness of the inflammatory process. The veins of the upper lid are often visible. The edges of the lids are covered with yellowish, sticky secretion, and the lashes are bound together and plastered against the skin. Often a bead of yellowish dry matter lies in the inner corner of the eye. As is frequent in all forms of catarrhal inflammation of the eyes, the lids may be tightly glued together when the patient rises in the morning, so that long bathing and soaking of the lids may be necessary to get them open.

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* Read before the New York County Medical Association, April 21, 1890.

In order to appreciate the condition of the inner surface of the lids, it is well to depress the lower lid, so that it is slightly everted, and to turn the upper lid upon the finger. The mucous membrane will be found to be red, swollen, succulent, and bathed in secretion. In the bottom of the sac and along the sides may be strings of yellowish-white matter that can be removed by gentle means.

In many cases there are large granulations in the sac of the lower lid. The inner surface of the upper lid will be observed to be swollen and very wet, but no granulations are present as a rule.

And now let us glance at the ball, the tissue from whose appearance in the disease the graphic name of pink-eye has been derived. It is pink in all cases except when it is red, and indeed the expression "red-eye" seems to me to be equally accurate as pink-eye. It will be observed that the straight blood-vessels of the subconjunctival region are congested, and the superficial tortuous ones too. A skilled eye is needed to separate this appearance from that circumcorneal injection which is present in iritis. The inflammation of the bulbar conjunctiva never rises to the dignity of chemosis, and, while characteristic of the disease, is yet of secondary pathological interest. The cornea is rarely affected; whenever it is affected, the process is only phlyctenular, and the blisters are restricted to the sclero-corneal margin. The deeper structures of the ball are not affected by "pink-eye."

On the whole, the general character of the disease is catarrhal, and this will be clear to a superficial observer. Usually one eye is infected, and afterward its fellow, either from the eye originally infected or from the original source of infection. It is very rare that both are infected simultaneously, and it is still rarer for one eye to remain pure.

Patients with pink-eye usually consult the ophthalmic surgeon when the disease is at its height, and it is seldom that a surgeon has an opportunity to observe the incipient signs unless he has infected some one for the purpose of scientific (?) observation. In fact, the disease in its early stages can not be diagnosticated with certainty, and differs but little in the manner of its invasion from several other infectious diseases of the conjunctiva. It is usually at its height about forty-eight hours after the first symptoms—lacrymation, burning, etc.—have manifested themselves to the patient. The length of the continuance of the severe symptoms depends upon surrounding conditions and the nature of the treatment. Severe cases are always attended by coryza in one or both sides of the nose, and frequently, too, by inflammation of the frontal sinuses. In the inflammation of regions so extensively supplied by the fifth nerve it is natural to expect pain. Pain is present in all cases of pink-eye, and becomes intense, both in and around the eye, when coryza and inflammation of the frontal sinuses exist. Systemic depression, coupled with fever and sleeplessness, is not infrequently present. As is usually the case in conjunctival diseases, there is but slight photophobia, and whatever there is of cloudy vision is due to the temporary obscuration of the cornea by mucus and tears. When the severe stage has passed, the eye shows less of the catarrhal character, the bead of matter is seen in the inner corner only in the morning, the muco-purulent discharge gradually lessens, and the pinkness fades away, leaving the sac and conjunctiva in a swollen, reddened, succulent condition, in which granulations frequently persist for some time. In the majority of cases the patients recover entirely in from four to six weeks. When the disease lasts longer than this, there are good reasons—a matter that will be referred to later. It may be stated, without fear of contradiction, that the prognosis for sight in pink-eye is good.

I have no acquaintance with untoward results in the treatment of pink-eye. Two or three months after the disease has been inaugurated the conjunctiva is in a normal condition. The presence of phlyctenulæ on the margin of the cornea has already been referred to. These blisters have no significance, are not characteristic of the disease, are side issues, so to speak, and disappear usually without special treatment. The frequent presence of a granular condition of the mucous membrane opens up a field of suggestion; the existence of this condition in one eye and the absence of it often in the other make the matter still more worthy of attention.

The selection of a good name for this disease has not been unattended with difficulty. The names that have been given to it have been selected sometimes from the clinical features, sometimes from a supposed cause, and as there are many clinical features in it, and as many causes have been assigned for it, the names are various.

The majority have agreed in considering it a distinctly catarrhal process, so that in the nomenclature there is usually a suggestion as to this character. We have seen that the name pink-eye has been given on account of a secondary condition in the bulbar conjunctiva, and we have seen that this condition of bulbar pinkness may occur in other diseases. Moreover, the eyes are not always pink; sometimes they are red. Hence "pink-eye," while expressive, is not sufficiently distinctive. It is clear that the term catarrhus oculi is too indefinite.

Ophthalmia purulenta mitior is clearly inefficient, since the disease is not distinctively purulent in nature. Muco-purulent catarrh is nearer the truth, for the discharge is pus-like, though really mucous in constitution.

The name "simple inflammation of the conjunctiva" hardly deserves mention.

To describe it as autumnal or vernal catarrh of the eye is incorrect, since the disease appears at any season. We must select some term distinctive of its pure catarrhal character, and we must add to that others that best describe its other features.

It seems to me to be necessary to add to the word catarrhal either the word epidemic or infectious. Now, my belief is that the word epidemic is inappropriate, since the disease is not always epidemic; but I am prepared to accept the word infectious, since every new case arises from infection from others.

There is no such thing as a disease with the signs I have enumerated that is chronic; hence I am willing to describe this process as acute, and in this way I evolve, to my own satisfaction at least, the name acute catarrhal infectious conjunctivitis.

I adopt the definition *infectious* in preference to contagious because the disease in many cases is apparently communicated without contact. When an epidemic of this disease passes into a community, infection takes place too rapidly throughout it for us to assume direct contact as the medium of infection in all cases.

The diagnosis of the disease is by no means difficult. The only diseases with which it would be likely to be confounded are blennorrhœa of the new-born, acute granular lids, and membranous conjunctivitis. Blennorrhœa of the new-born always occurs in the new-born and has a quality in its secretion that causes it to differ materially from acute catarrhal infectious conjunctivitis. The secretion in blennorrhœa is pus — yellowish-green or yellowish — the eyes in the height of the attack are always closed, and the history of the case will assist in clinching the diagnosis.

Gonorrhœa in the adult eye is so severe a thing and altogether presents such a terrible picture that it is hardly conceivable that any one could mistake it for pink-eye. The appearance of acute granular lids is very similar to that of pink-eye in the height of the attack, and it is rendered especially so by the frequent presence of granulations in pink-eye. The subsequent behavior of the case will settle the diagnosis beyond a cavil. Pink-eye will get well without remaining signs of granulations in from four to six weeks; granular lids will persist as granular lids for a much longer period than six weeks. Moreover, the granulations in pink-eye are, at least in the majority of the cases, restricted to the lower lid, and often occur in one eye alone, whereas the granulations of granular lids occur on both lids in both eyes. As regards the differential diagnosis between pink-eye and membranous conjunctivitis, I think there should be no difficulty. But the observations of another on this point will presently have my attention.

Autumnal and vernal catarrh of the lids might possibly be mistaken for pink-eye by one who is not accustomed to seeing eye diseases.

The differential diagnosis may be made by observing the absence of intense acute inflammation in autumnal and vernal catarrh. There is not so much secretion, the eyeball is not pink, and around the corneal margin is a semipellucid rim of sodden elevated conjunctiva.

Within the last eighteen months or two years I have seen more cases of pink-eye than in all the rest of my experience. This spring two years ago an epidemic of it appeared to exist in the territory of the Northwestern Dispensary. I commenced to observe it soon after, with great frequency, likewise at the Vanderbilt clinic. The first member of a family attacked was usually a boy, and this I observed so frequently that it led me to look for some habit peculiar to the boys. By questioning I elicited in each boy's case the fact that either he or some companion had been bathing in the North River, and that his eye became sore soon after bathing or soon after some companion was attacked. Starting with this as a nidus, the disease as a rule ran through the entire family, attacking the children and afterward the parents. It was interesting to know whether the disease was caught in the bath-houses or out in the stream of the river. The boys as often said they bathed in the stream as in the houses, and indeed it is very reasonable to suppose that this is so, seeing that there are only a few bathing-houses on the river front and an infinite number of boys.

This point I was particularly interested in by reason of the sensational statements made by some physician a year or two ago in the daily newspapers concerning the infectious character of the water in the bathing-houses along the river front. My experience has led me to believe that these houses, so far at least as the infectious principle of pink-eye is concerned, are no more dangerous than the stream. There is little doubt in my mind that the virus of pink-eye was in suspension in the water of the river, and that this was the well-spring of at least one epidemic which I have observed in my territory.

Before the days of deep microscopical research it was held to be conclusive of a diagnosis when all the clinical features of a disease were present. I believe this to be the case with pink-eye, if not with other diseases. I have seen pink-eye pass through a family and a community by infection, and I have likewise seen the disease standing by itself, and have seen it fail to attack any other than its original subject. In other words, it has seemed in some cases to be sporadic. This we know to be not infrequent in some infectious diseases. I have seen pink-eye occur in a patient whose nose was under treatment for a hypertrophic rhinitis. A profuse mucous discharge was present in the nose. The source of the pink-eye in this case very likely was the nose. The patient stated he blew his nose violently and felt the air pass into his eyes, presumably through the nasal ducts. The pink-eye developed immediately thereafter. The disease was not communicated to others. I have seen typical pink-eye arise in a physician accustomed to perform autopsies, who remembered touching his eye during an autopsy; soon afterward the inflammation appeared. The clinical signs of the disease were all present. The disease was, however, not propagated to others. A large majority of those who have written on the subject of pink-eye or catarrhal conjunctivitis have enumerated many and various causes for the disease, such as changes of temperature, winds, draughts, dust, smoke, chemical combustion, infection from neighboring tissues which are inflamed, as in coryza, blepharitis, eczema faciei, and erysipelas. Some have gone so far even as to say that this disease may arise from strain of the eye from overwork, from exposure to bright lights for protracted periods, from prolonged weeping, etc. No suggestion of a specific cause for pink-eye seems to have been made until Howard wrote: "This disease is purely specific and differs in every respect from all other diseases of the conjunctiva." All writers on this subject apparently agree with reference to the contagiousness of pink-eye, and a number, among whom are Soelberg Wells, Williams, Noyes, and Mackenzie, consider it infectious—that is, communicable through the medium of the air. Saemisch thinks all discharges from inflamed conjunctivæ will produce conjunctivitis when applied to healthy eyes. In speaking of purulent conjunctivitis, Soelberg Wells says it is not by any means the rule that the discharge from this disease reproduces the purulent form in healthy eyes; purulent conjunctivitis, for instance, may give rise to catarrhal conjunctivitis, to diphtheritic conjunctivitis, and to acute granular lids, just as the discharge from these diseases may give rise to purulent conjunctivitis. Without passing any definite opinion on this statement of Wells's, I may say it has frequently been observed by others, as well as by myself, that a mild form of catarrhal conjunctivitis may be caused by infection with the secretion from a case of gonorrhœal conjunctivitis when the disease is on the wane. The suggestion that there exists a specific cause for this disease is fascinating, and furnishes us with a reasonable hypothesis.

It has remained for Dr. Weeks, of this city, to maintain that the disease pink-eye is due to the presence in the conjunctival sac of a bacillus which has a definite life history and differs from all other bacilli which have been described.

It is only just to give a *résumé* of his work. The idea of looking for a specific cause for the signs of pink-eye was suggested to Dr. Weeks by Dr. R. O. Born, of this city, who sent Dr. Weeks a patient afflicted with pink-eye, with the request that he examine the "rather profuse muco-purulent discharge." This was done with the result of discovering the bacillus referred to. Dr. Weeks, in his monograph on this subject, says in frequent examinations of conjunctival secretions at the Ophthalmic and Aural Institute for some months previous to this time, he had never met with this form of microbe, and, with a view to discovering how frequently cases of this kind occurred, all the secretions from conjunctival diseases that occurred in the clinic for the three following months were examined.

The small bacillus did not appear again till the third month after its discovery.

Now it is not stated, but it is highly probable, that in the three spring months following the discovery of this bacillus, cases of pink-eye occurred in the *clientèle* of the Ophthalmic and Aural Institute. If such is the case, the bacillus evidently was not found in the secretion.

The fact that this bacillus was not discovered till the suggestion of the possibility of such a thing existing was made brings forcibly to my mind the saying that you must know what you are looking for if you wish to find anything under the microscope. Dr. Weeks professes to discover this bacillus in all cases of pink-eye as long as the yellowish discharge lasts. The bacillus was always found mingled with a clubbed bacillus. It was found impossible to separate the unclubbed or small bacillus from the clubbed one. In other words, a pure culture of the small bacillus could not be obtained. Repeated endeavors to cultivate this bacillus pure on all the known food media resulted in failure. It was possible to cultivate the clubbed bacillus pure.

Experiments were made to settle the character of these bacilli. The pure cultures of the clubbed bacillus failed to produce any effect when introduced either into the eyes of rabbits or into those of man. The mixture of the small and clubbed bacillus failed to produce any effect on the eyes of rabbits, but invariably produced pink-eye in man. After a number of sightless eyes were experimented on, Dr. Weeks inoculated his own eye. He describes a typical case of pink-eye in his own person. The small bacillus (together with the clubbed bacillus) was found in the secretion in every case of infection. His experiments showed that the clubbed bacillus alone was harmless, and that the mixture of the clubbed and small bacilli produced pink-eye in every case. This mixture retained its virulence unto the eleventh generation.

With these results as his data, Dr. Weeks arrives at the conclusion that the small bacillus is the specific cause of pink-eye. Now, without intending to cast any reflection on the drawer of these conclusions, I feel constrained to say that the conclusion is illogical. Dr. Weeks feels that his opinion is strengthened by his experiments with other microbes introduced into the conjunctival sac. Not to mention the observations of others, he himself professes to have discovered as many as ten kinds of microbes in the normal conjunctival sac. Eminent among these are the pyogenic staphylococci. A short, thick bacillus was more frequently found than any other kind.

It is certainly interesting to know that so many different kinds of bacteria are found in normal eyes; but this discovery, so far from proving anything as to the specific nature of pink-eye, seems to me to cast a certain reflection upon the virility of bacteria in general.

I have strong suspicions that a microbe cultivated alone in a test-tube is somewhat different from itself when growing among other congeners in an inflamed area of the human body; in other words, that pus, for instance, with its chemical and organic constituents as it comes from an inflamed area, is somewhat different from a mass of liquefied gelatin containing a mixture of all the pus-causing germs. Let us not forget our cellular and chemical pathology in the study of disease. It is barely possible that the cause of all diseases is not bound up in the life-history of germs.

The complications I have met with in pink-eye are granulations, sometimes so extensive and marked as to cause a suspicion of granular conjunctivitis and marginal phlyctenulæ. The latter are not worthy of attention, as they disappear of themselves when the severe symptoms of the catarrh have disappeared. Their presence in severity or in large numbers, however, demands the use of a certain remedy. Dr. Weeks refers to a membrane which he has observed in a number of cases of pink-eye. If it was a genuine organized tissue, I do not doubt that the cases in question were those of membranous conjunctivitis and not pink-eye. It seems to me highly probable that the false membrane observed by Dr. Weeks was a coagulated mass of pus and mucus—a thing which not infrequently appears in severe inflammations of the conjunctiva. As to whether one attack of pink-eye gives immunity from subsequent ones I am unable to say. I have never seen a person that was attacked twice in the same eye. It is no more than reasonable to assume that no such immunity is furnished, for we know that the gonococcus will grow in favorable localities as often as it is implanted. I have known this disease to arise in chronic or subacute trachoma with the effect of prolonging the cure of the granulations. Dr. Weeks finds that cases of granular lids are benefited by infection with the virus of pink-eye, and he suggests the idea of employing the secretion of pink-eye as a remedial agent in granular lids. We find an excuse for this suggestion in the substitutive inflammation that was formerly set up in trachoma by infection with gonorrhœal pus. It is safe to say that no one employs gonorrhœal pus now in the treatment of trachoma, and I think it as unlikely that any one will be willing to use the virus of pink-eye in the treatment of trachoma.

A number of references have been made in literature to the bacillus described by Dr. Weeks, but the references have consisted merely in reviews of his work. No one has, so far as I am aware, repeated his experiments, nor has any one essayed to make an analysis of the evidence he has furnished. Koch, while in Egypt investigating the cholera, discovered two forms of microbes in the secretion of fifty cases of catarrhal conjunctivitis; one was a coccus closely resembling the gonococcus, the other a small bacillus. Dr. Weeks thinks the bacillus discovered by Koch to be the same he has described. Haensell mentions a microbe peculiar to catarrhal conjunctivitis, but fails to describe it or its life-history minutely. Dr. Knapp pointed out to Dr. Weeks a small bacillus which he had discovered in deposits about teeth and in the detritus of a corneal ulcer. No experiments were made with this bacillus, although it bore a strong likeness to the bacillus described by Weeks. There is nothing so uncertain in the whole range of medical science as the ætiology of disease, except, perhaps, the treatment.

And it is a significant fact that discoveries of causes do not often furnish us with means of successful treatment. Especially is this the case in those diseases whose cause has been found to be bacterial. It is questionable whether gonorrhœa is more easily cured now than before Neisser discovered the coccus under the microscope. It is quite certain that the hypothesis of a bacterial cause for pink-eye has not furnished us with any more efficient means of combating the disease.

Nevertheless, the endeavor to discover the cause of disease is the corner-stone of scientific treatment, and the spirit which prompts it is praiseworthy and admirable. Whether the hypothesis be true or not, the suggestion of Dr. Born and the careful work of Dr. Weeks in regard to the ætiology of pink-eye command attention and deserve consideration.

As regards the treatment of pink-eye but little need be said. The disease will get well of itself if the patient has reasonably good hygienic surroundings and is in any respect careful of personal cleanliness. Nevertheless, rational mild treatment will greatly facilitate the recovery, as irrational rough treatment will retard it. If there is an epidemic of pink-eye, isolation should be resorted to immediately. But I conceive this to be necessary only in closed communities, such as those of camps, jails, hospitals, etc. In individual families it is perhaps enough to demand that the infected members eat together and live as much apart from the uninfected as possible. In regard to children, it should be strongly urged that infected ones sleep apart from the others and use different towels, bowls, baths, etc. As a rule, however, the disease pursues the even tenor of its way through the entire family irrespective of their weak endeavors to establish quarantine. Infected children should be kept from school at least until all the severe catarrhal symptoms have passed away. I believe it to be a rare thing for a school to be broken up by an epidemic of pink-eye. But quarantine is the safest measure to adopt in the case of schools. A month is a sufficient length of time for the quarantine; a shorter time might suffice.

In regard to topical treatment, I believe cold applications to be the best measure, at least in the acute stage. These may be made by bathing the eyes with absorbent cotton or a clean linen handkerchief. A sponge should never be used. This procedure may be varied by laying ice-cold pledgets of wet cotton on the lids and removing them as soon as they become warm. This may be done for half an hour three times a day or more frequently. I conceive it to be an excellent thing to dissolve some antiseptic in the water, and, to put my conclusions in this matter in a nutshell, I would say I find borax to be the best agent that I know of. It is antiseptic if not germicidal, it can be obtained always without difficulty, it is agreeable to the eyes, and it is readily soluble both in warm and in cold water. A teaspoonful to a pint or half pint makes a solution sufficiently strong.

I have likewise used boric acid, hyposulphite of sodium, benzoate of sodium, chlorate of potassium, and alum in the same proportion in the same way, but I consider borax best of all for many reasons. The conception of the germ cause of this disease, of course, brings up to one's mind the bichloride of mercury. As a bath in the strength of 1 to 5,000 I find it to be a very good thing on account of the water. Stronger solutions of this agent are biting to the eye. To instill a few drops of a solution of this agent of the strength mentioned into the eye sac is simply temporizing and pinning faith to a theory. The bichloride of mercury is not always beneficial to inflamed surfaces, and is rarely emollient or pleasant to any. A one-per-cent. solution of sulphate of zinc brushed upon the inner surface of the lower lid in the morning is a good remedy. It is not well to drop the solutions of this remedy into the eye, and I think it should never be used at night. Solutions of sulphate of copper are of little advantage and are decidedly inferior in value to the other remedies I have mentioned.

I do not use nitrate of silver in this disease at all, and I strongly discountenance its use except in a one-per-cent. solution and toward the end of the attack. The cases I have treated with this agent have invariably taken longer to get well than those I treated by milder means. The solid stick of blue-stone lightly touched upon the inner surface of the lower lid toward the end of the disease I believe facilitates recovery. This is particularly valuable when granulations accompany the disease. Phlyctænulæ rarely deserve consideration unless numerous. They are generally restricted to the sclero-corneal margin. When there is much photophobia they will usually be found. Atropine is then indicated, and it should be withdrawn as soon as the phlyctænulæ commence to disappear.

A salve is absolutely necessary in the treatment of pink-eye. I think vaseline or cold cream as good as anything I know of. I am accustomed to prescribe a boric-acid ointment or an ointment of yellow oxide of mercury. Suffice it to say I have them both made mild—no stronger than the proportion of gr. v to ʒ ss. When vaseline is not borne well I write for cold cream. I do not find lanoline of much value as an excipient for eye-salves.

The wearing of flat London-smoke glasses No. II is very comfortable to those who suffer from photophobia. No bandages should be applied. Ventilation of the eye I conceive to be a rational practice in the treatment of conjunctival diseases. The patient should be restricted from reading so long as it is trying to the eyes.

I conclude the consideration of this subject with the following propositions:

1. Pink-eye is an acute catarrhal disease of the conjunctiva.
2. It is usually infectious, always contagious, sometimes sporadic.
3. The cause is undetermined, but is evidently an entity transmissible through the air and communicable by contact.
4. The prognosis is good.
5. Duration: four to six weeks.
6. Treatment: cold, antiseptics, mild astringents, and salves.

A CASE OF PYÆMIA IN A MAN SEVENTY-ONE YEARS OLD,

REQUIRING AMPUTATION OF THE FOREARM.

RECOVERY.

By JOHN A. HEATLY, M. D.,
SCHENECTADY, N. Y.

On Sunday, April 28, 1889, while making my daily visit to the County Almshouse, I was requested to see S. W., who was the baker for the almshouse. On visiting him, I found his left hand and arm swollen, and on the inner side of his little finger a bruise about half an inch in extent, which presented a dark and inflamed appearance, and discharging but little. He gave the following history: On the Friday previous, while attempting to lift a stone out of a barrel containing beef, he had his hand caught between the side of the barrel and the stone, and the flesh of the little finger was bruised. The injury bled slightly; he paid but little attention to this, and continued to get some beef out of the barrel, the injured hand being in the beef-brine. He does not remember how soon afterward it was that he washed his hand, and as for the injury, he gave it but little attention. On Sunday the hand and arm were swollen, and, when I saw them at 4 P. M., they presented a very interesting condition. At that time his temperature was 100°, pulse 96, tongue coated with white fur; loss of appetite; foul-smelling breath. He said his bowels had not moved since Friday. Hot flaxseed poultices were applied to the injury, a laxative administered, a sustaining diet ordered, with milk-punch four times a day. In two more days the swelling had extended to the middle of the upper arm, and a line about half an inch in width, very red in color, extended from thence into the axilla. It remained in this condition for three days, and then the inflammation began to subside. Up to this time the temperature was from 100° to 102° F., pulse 120. The bowels constipated unless moved by physic; tongue with white coat, pulse quick and weak; he was terribly jaundiced.

The color of the arm was a livid red; to the touch it was hard, pitting on pressure. The inflammation receded to the lower third of the forearm, but from here to the tips of the fingers the swelling was immense. After the third day a poultice of powdered charcoal, cinchona-bark, and yeast was applied to the seat of the original trouble, and from then on it discharged freely. Soon abscesses formed on the palm, on the back of the hand, and on the wrist both before and behind. For a time when the parts were so swollen the skin burst in places, and a thin yellow serum was discharged, but afterward pus in abundance.

In spite of a most liberal diet and the free use of stimulants, with the internal use of tinctura ferri chloridi and quininæ sulphas, the patient continually lost flesh. He developed a cough. Soon evidences of the bones of the hand and also the ends of the ulna and radius becoming involved were evident. I gave the patient as nearly an antiseptic line of treatment for the wound as possible. It was plain to be seen that he could not stand this condition of affairs much longer. Several doctors had seen the case and all had advised amputation as his only hope, but he hung out against this for six weeks, and when he was willing to have the amputation performed, I was the one who hesitated. At this time he was unable to move the fingers, for the sloughing had destroyed muscles and tendons; the hand was rested on a piece of board. His history, his age (seventy-one years), and his present condition were all against an operation, however much the condition of the hand and arm called for it. He had lived an irregular life, at times a hard drinker, and always using more or less stimulants. I was not able to find albumin in the urine at any time. On Sunday, June 2d, with the assistance of Dr. McDonald, Dr. Van Zandt, Dr. Vedder, and Dr. Clute, I amputated at the junction of the upper and middle third of the forearm. The patient took the ether nicely, he insisted upon walking from his room to the operating-table, came out of the influences of the ether quickly, and, in spite of our remonstrances, walked back to his room. He told me the next morning that last night's was the only night's rest that he had had for six weeks. The parts healed by first intention, and in two weeks afterward all was well.

The operation was done under as nearly aseptic conditions as possible, and afterward an antiseptic line of treatment followed out.

This case presents some interesting points. The manner by which the man was inoculated, so to speak, was undoubtedly by the absorption of organic matter in the beef-brine. The fact that the inflammation extended to the axilla and was not followed by secondary inflammation, or by the formation of metastatic abscesses in the liver or other organs, is contrary to the experience of most authors. Other than this the case is not an unusual one. The age of the patient, his former mode of living, and his condition at time of operating, were not very encouraging; his rapid recovery and subsequent good health were a matter of gratification. He is still living, and retains his old position as baker at the almshouse.

The Chair of Pharmacology in Bern.—Dr. Tschirch, private lecturer in the Berlin University, has been appointed professor of pharmacology in Bern. He was originally an apothecary, and afterward devoted himself chiefly to botany. His special field is the chemical physiology of plants, and the main theme of his investigations has been the structure and qualities of chlorophyll. Along with Friedrich Flückiger he has written a hand-book of pharmacology, and is now writing a hand-book of the anatomy of plants. With the help of funds granted by the Berlin University he made a journey of research in the tropics about a year ago.—*Lancet.*

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MANIPULATIVE TREATMENT IN GYNÆCOLOGY.

No well-informed person is oblivious of the remarkable progress made in the science and art of medicine during very recent years. Yet that progress is oftener made the subject of mention than a still more wonderful advance made by medical men—that, namely, of having thrown off the narrowness of view that fifty years ago or less would have doomed any therapeutic measure proposed by a non-medical person to entire lack of recognition on their part. It is in the nature of things that a science should keep step with its sister-sciences, but it is not so obviously in the nature of things that a class prejudice should crumble to dust with equal rapidity, even in an age when theological acrimony has almost become a thing of the past. It conduces far more to the world's happiness that men should broaden and temper their estimate of each other, that all feeling of caste should go the way of priestly and monarchical ascendency, than that a special class of men should acquire a more extensive insight into the secrets of nature. It would not be easy to mention a more striking token of the particular form of progress to which we have alluded than the way in which the medical profession has received a therapeutic method devised by Mr. Brandt. Perhaps its reception has been over-enthusiastic; at all events, such a criticism as that devoted to it in Dr. Taylor's article, published in this number of the Journal, is wholesome matter to read, no matter what the reader's state of mind may be with regard to the utility of the Brandt system.

For our part, we are disposed to concede considerable value to the manipulative treatment of chronic inflammatory and congestive affections of the pelvic contents in women. There are phases of such conditions, in whatever part of the body they may have their seat, in which a mere stirring-up of the structures involved is of benefit in the long run, although often at the expense of aggravation of the evil for the time being. This is probably the explanation of the good results that have followed many a surgical operation undertaken on an utterly erroneous theory. It should be borne strictly in mind, however, that this sort of remedy is one that is capable of doing serious damage if used indiscriminately and without intelligent supervision. That its employment should ever pass exclusively or very generally into the hands of the professional *masseur* we should regard as a misfortune of the first magnitude. We believe that it is of far greater importance for physicians to perfect their knowledge of the diseased conditions concerned and their capability of appreciating the degree of tolerance of manipulation present in individual cases than it is for them to master the particular strokes and thumps employed by those who profess to teach pelvic massage. With this conviction, the practitioner is reasonably certain not to err seriously in the direction of over-activity; and, even if this conservative restraint should be ignored now and then, we do not look forward to anything like the damage from manual procedures that has resulted from the use of the uterine sound, from stem-pessaries, and the like.

THE OUTLOOK AS REGARDS CHOLERA.

It is nearly a quarter of a century since a serious irruption of Asiatic cholera occurred in the United States, and the epidemic of 1866 was kept well under control in comparison with the outbreaks of several preceding years. There can be little doubt that we have seen the worst of cholera in this country. In the first place, notwithstanding the number of our ports of entry, it is not every European incursion of the disease that crosses the Atlantic; in the next place, cholera has of late years been reduced almost to complete subjection wherever the measures inculcated by the sanitary science of the present day have been properly resorted to; finally, our public sanitary service is now more efficient than ever before, and those who are in charge of its administration are better disciplined and provided with more adequate powers and resources.

It has not yet been shown conclusively that the outbreak in Spain is one of true Asiatic cholera. It may be a choleroid endemic. If the disease is really Asiatic cholera, however, we see no reason to attach much importance to the question of whether it is due to a fresh importation from India or to a sudden display of activity on the part of stray germs left over from a previous visitation, except, indeed, that, if the former supposition is correct, there is reason to fear that the disease has been or soon may be carried to other parts of Europe by a more direct route than by way of Spain, and by one that is not yet known. The Spanish authorities do not seem to have misdirected their energies to the mistaken policy of trying to make themselves and the rest of the world believe that there is no danger of a diffusion of the disease; they appear, on the contrary, to have a wholesome appreciation of the general principle that it is better to treat an epidemic as if it were formidable than to follow the do-nothing course and rest on the fond hope that matters will take care of themselves. They are enforcing measures of isolation while the disease is yet confined to a small area, and neighboring countries may be trusted to take like precautions.

All these considerations are of course no argument against the need of vigilance even at this distance from the seat of the outbreak. The disease may make its way into other European countries and it may cross the Atlantic. Nothing is to be gained by assuming that it will not do so. On the other hand, excessive apprehension has a most depressing effect on the timid, and it would show inexcusable neglect of their welfare and peace of mind not to give due prominence to the probability of our escaping the cholera this summer.

MINOR PARAGRAPHS.

THE DOCTOR IN CANADA.

This is the title of a book of reference compiled by Dr. Robert Wynyard Powell, of Ottawa, which will undoubtedly prove of great value to our Canadian brethren. It gives the substance and in many instances the full text of the laws bearing on medical education, medical practice, and public sanitation; lists of persons composing the licensing bodies, the teaching faculties, and the hospital staffs, together with other information concerning colleges, hospitals, penitentiaries, and quarantine stations; and lists of medical journals, licensed practitioners, medical legislators, medical officers of the militia, health officers, coroners, railway medical officers, and examiners in life insurance. In short, the book is a medical directory as well as a guide to the medical legislation of Canada, and will doubtless prove useful to many physicians in the United States. It is published in Montreal, by the Gazette Printing Company.

THE LATE DR. KÜCHENMEISTER.

Concerning the life-work of the late Dr. Küchenmeister, the Berliner medicinische Wochenschrift says that helminthology was only a small part of his range of interest and achievement. He was among the first to appreciate the value of ovariotomy, and was the means of promoting the first operation of that kind that was done in Dresden, and perhaps in Germany. The operator was an assistant of Sir Spencer Wells's. He introduced the use of lime-water in diphtheria—a treatment that is largely in vogue in Germany at the present time. He was an ingenious inventor or adapter of surgical instruments, the rhineurynter being one of his devices, not a little used for plugging the nares to stop the flow of blood. He was for fifteen years one of the leaders in advocating cremation, as a part and parcel of the lively and thorough interest which he took in sanitary progress.

FRENCH BRANDY COUNTERFEITED.

A Paris dispatch to the London Daily Telegraph announces that a well-known French firm of brandy manufacturers has recently discovered that its products have been extensively counterfeited in Spain, that one of the persons implicated has been sentenced in France to imprisonment and fine, and that the others will be tried in their own country. "All who appreciate good French cognac—when they can get it—will be glad to hear of the energy displayed by the Bordeaux firm," says the dispatch. The cream of this comment lies in the clause "when they can get it." With a pure California brandy to be had at a low price and needing only a little age to make it as acceptable to the palate as cognac, Americans can afford to look with some complacency on the counterfeiting that is going on in Europe.

AN EGYPTIAN MEDICAL JOURNAL.

We are indebted to our distinguished countryman, Dr. J. A. S. Grant (Bey), of Cairo, for a copy of El Shifa, a medical journal printed in Arabic, in Egypt. It is an octavo of forty pages, and will undoubtedly do much, as Dr. Grant hopes, to illumine the Oriental mind with the light of western medicine.

OPHTHALMOLOGY MADE EASY.

We understand that our brethren in Philadelphia have for some time been aided by a commercial firm in their ophthalmological examinations. Now New York is blessed in like manner. A firm here is sending out announcements among physicians, giving them to understand that general practitioners "can successfully cope with a large number of the 'eye cases' that present themselves after they have ordered the errors of refraction properly corrected with lenses." The circular contains also the statement that the firm is prepared to make these corrections on orders from physicians, or, as the circular phrases it, to "refract" eyes.

THE NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.

We have repeatedly commended this organization and recorded fresh evidences of its prosperity and usefulness. We learn that a gentleman representing it, Dr. George T. Wetmore, is visiting the physicians of the northern and central portions of the State of New York, and we would urge them again to secure its benefits for their families. It is expected that before long the sum paid on the decease of a member—now $700—will be increased to $1,000, and that, with the growth in membership looked forward to, it will only be necessary to assess on two out of every three deaths.

THE CHICAGO MEDICAL CONGRESS OF 1892.

A foreign contemporary assures its readers that an international congress has been determined upon by the female physicians of Chicago, the meeting to be held in that city in 1892 or 1893. The preliminary circulars have been prepared, and will presently be sent out through the whole civilized world to all whom this proposition may concern. It will probably be called the International Medical Congress for Women, and many will doubtless go a long way to take part in it.

THE EYE CLINIC AT MERAN.

The Duke Carl Theodor, of Bavaria, is a worker, says the Lancet. He has been spending a four weeks' vacation at Meran in the Tyrol. During that time, it is stated, he conducted to a satisfactory conclusion 170 operations, 53 of which were for cataract. His services are given to the poor, not alone to Austrians, but to Swiss and Italians, many of whom travel long distances in order to be present and be treated at the time of the ducal clinic at Meran.

THE BERLIN CONGRESS.

Our German colleagues seem determined to do all that can be done to make the Tenth International Congress not only of the utmost value scientifically, but also thoroughly enjoyable. The feature of which we have most recently been informed is the establishment of a reading-room for the members, in which they will find the current medical periodicals.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 24, 1890:

DISEASES.	Week ending June 17.		Week ending June 24	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	1	7	1
Scarlet fever	57	6	33	4
Cerebro-spinal meningitis	0	0	0	0
Measles	355	22	297	15
Diphtheria	90	32	90	26
Varicella	16	0	12	0

The New Hampshire Medical Society held its ninety-ninth annual meeting in Concord on Monday and Tuesday, the 16th and 17th inst., under the presidency of Dr. William Child, of New Hampton. The programme included the following titles: Beverages of the Past and Present: What will be the Beverage of the Future? by Dr. C. W.

Gross, of Milton Mills; Ptomaines, by Dr. C. P. Frost, of Hanover; The Recent Epidemic of Diphtheria in Keene, by Dr. H. K. Faulkner, of Keene; Medical Men (oration), by Dr. Thomas Hiland, of Concord; and Railway Hygiene, by Dr. G. P. Conn, of Concord.

The American Journal of the Medical Sciences.—We learn from the Medical News that Dr. I. Minis Hayes will retire from the editorial chair upon the completion of the July issue, and that he will be succeeded by Dr. Edward P. Davis.

The Kings County Hospital for the Insane.—The resident physician of the St. Johnland Asylum, belonging to Kings County, Dr. J. L. Macumber, succeeded his former chief, Dr. D. A. Harrison, on June 1st. Dr. Macumber has been four years in the service of the Commissioners of Charities. Dr. Harrison's services in the building up of the branch asylum have been most meritorious and of lasting value.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 7 to June 21, 1890:*

Sternberg, George M., Major and Surgeon, will, by direction of the Acting Secretary of War, in addition to his present duties, perform the duties of the post surgeon at Fort McHenry, Maryland, during the absence of that officer on leave.

Gardiner, John de B. W., Captain and Assistant Surgeon, having been found incapacitated for active service by an Army Retiring Board, will, by direction of the Acting Secretary of War, proceed to his home. Par. 12, S. O. 135, A. G. O., Washington, June 10, 1890.

Crampton, L. W., Captain and Assistant Surgeon, is granted leave of absence for one month, to take effect the 15th instant. Par. 5. S. O. 75, Department of the Missouri, St. Louis, Mo., June 9, 1890.

Horton, Samuel M., Major and Surgeon, will, by direction of the Secretary of War, visit the encampment of the Maine Volunteer Militia, at Augusta, Me., during the period of its encampment, June 30 to July 4, 1890, inclusive, for the purpose of instructing the medical department thereof in its duties in camp, and, on completion of this duty, will return to his proper station. Par. 5, S. O. 143, A. G. O., Washington, D. C., June 19, 1890.

Byrne, Charles B., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for two months, to take effect July 1, 1890. Par. 13, S. O. 141, Headquarters of the Army, A. G. O., June 17, 1890.

Gray, William W., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for four months, to take effect upon the final abandonment of Fort Maginnis, Montana, Par. 14, S. O. 141, Headquarters of the Army, A. G. O., June 17, 1890.

Swift, Eugene F., First Lieutenant and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Spokane, Washington, and will report in person to the commanding officer, Fort McDowell, Arizona, for duty at that station, relieving Wyeth, Marlborough C., Captain and Assistant Surgeon, who, on being thus relieved, will proceed to Fort McIntosh, Texas, and report in person to the commanding officer thereof for duty at that station. The officers named will also report by letter, on their arrival at their new stations, to their respective department commanders. Par. 10, S. O. 140, A. G. O., June 16, 1890.

Owen, William O., Jr., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for six months, to take effect when, in the opinion of his department commander, his services can be spared. Par. 12, S. O. 139, A. G. O., June 14, 1890.

Appel, Aaron H., Captain and Assistant Surgeon, Fort D. A. Russell, Wyoming, is granted leave of absence for one month, to take effect on or about June 15, 1890, with permission to apply through Headquarters, Division of the Missouri, for an extension of one month. Par. 4, S. O. 42, Headquarters Department of the Platte, Omaha, Neb., June 10, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 14, 1890:*

Simons, M. H., Surgeon. Ordered to the U. S. Steamer Enterprise.

Society Meetings for the Coming Week:

Tuesday, *July 1st:* Medical Society of the County of Broome (quarterly), N. Y.; Union, N. J., County Medical Society (quarterly); Chittenden, Vt., County Medical Society.

Wednesday, *July 2d:* Medical Society of the County of Richmond (annual—Stapleton), N. Y.

Thursday, *July 3d:* Washington, Vt., County Medical Society.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

Meeting of May 7, 1890.

The President, Dr. Richard Kalish, in the Chair.

A Case of Lock-jaw.—Dr. R. H. Sayre presented a case of this description. The patient was a little boy about five years old about whom no definite history could be obtained further than that the deformity of the jaw had not been noticed until quite recently, when a physician asked the boy to put out his tongue. In feeding himself he poked the food into his mouth with his fingers. There was hardly any space between the upper and lower jaws; the teeth did not oppose each other properly; and the lower jaw was turned to the right. It was a question whether the deformity was due to disuse or was an atrophy of nervous origin. The boy might have had an arthritis of the temporo-maxillary articulation on the left side. The speaker had begun treating the case by stretching open the jaws with an instrument presented to the society a year ago by Dr. L. W. Hubbard. It consisted of two plates of steel fastened together by a separable hinge, and capable of being separated at the other end by turning a screw. Although the instrument had been made as thin as was consistent with proper strength, it was difficult to introduce it. In the intervals between the stretchings the patient wore a wedge of hard wood secured by a string. If this stretching process did not prove successful, resection of one temporo-maxillary articulation might be of service.

Dr. William R. Ballou said that he had quite recently seen such a case in a child about nine years of age. There was extensive bone disease with consequent bony ankylosis on one side, and on the other side there was also apparent ankylosis from disuse. The jaws could be separated only a small fraction of an inch. The general appearance was very similar to that found in this case, and there was also marked falling in of the jaw on one side.

Giant-celled Sarcoma of the Finger of Unusual Size.—Dr. Ballou presented a patient from whom he had removed such a growth, and exhibited the specimen. (To be published.)

What is accomplished by the Use of Digitalis in Cardiac Disease?—A paper with this title was read by Dr. Egbert Le Fevre. (To be published.)

Dr. A. L. Loomis opened the discussion, confining his remarks to the practical side of the question. He thought that any one who had much to do with heart disease would soon arrive at the conclusion that, of all the so-called heart tonics, digitalis was *the* one to be relied upon; and yet there was no drug which required so much experience and skill in its judicious administration. Idiosyncrasy was always an important factor in this question, certain persons showing extreme susceptibility to the drug while others exhibited a remarkable tolerance. So long as the compensatory hypertrophy was sufficient to maintain a good general circulation, digitalis should never be given; but when those first irregularities appeared, which were perhaps not even appreciated by a casual examination of the patient, then was the time for digitalis. The evidence of beginning heart failure might be so slight at this stage that physical exercise or emotional excitement might be necessary to bring it out. But when such early evidences of weakness were present in connection with the valvular lesions referred to this evening, digitalis should be administered; and he thought the best results were obtained from doses which were so small that they would be, under ordinary circumstances, considered insignificant. Perhaps only one or two drops of the tincture would be needed. He thought that any one who gave more digitalis than was requisite to overcome the insufficiency did his patient positive harm. Large doses were only to be resorted to in the very advanced stages of cardiac insufficiency.

It was important to remember that when digitalis was given in doses of more than five or ten drops of the tincture, the patient should be at rest; and, on this account, he was accustomed to order in the early stages a single dose at bed-time. If a minimum dose was thought desirable in the early part of the day, the patient should be instructed to remain in the recumbent posture for some time after its administration. When large doses of digitalis were given for a length of time, active exercise became dangerous. Only last week he had seen a gentleman having aortic and mitral lesions, with marked dilatation and hypertrophy and the general signs of arterial sclerosis, who had been taking twenty drops of the tincture every two hours. He at once cautioned the patient's friends of the danger, but the warning came too late, for the patient died suddenly in a car on the following day. Such cases were not infrequent; and probably many of those present could recall similar cases of sudden death which they had seen while in the hospital. In cases of advanced cardiac insufficiency, where the patient was in a water-logged condition, the question of administering large doses of digitalis had been settled for him by the quantity of urine which was excreted during its administration. If the quantity was increased, the drug was doing good, and he would increase the dose, if possible, up to the point of securing compensation; but if the quantity of urine was diminished, its action was not beneficial but positively harmful.

Speaking of the degeneration of the cardiac walls, the author had taken the ground in his paper that the heart walls could be increased in some instances by the administration of digitalis. This was undoubtedly possible in the early stages of fatty degeneration, or in cases of simple weakness of the cardiac walls from insufficient blood supply, or from general muscular debility; but if the degeneration was due to a fibroid condition—a chronic interstitial myocarditis—the relief would only be very temporary, and the patient would ultimately be in a much worse condition. In such a case the only relief was to be sought for in an entirely different class of remedies—the eliminatives. Hence, iodide of potassium and mercury would be found of service, but not digitalis. As an illustration of the length of time that large doses might be taken, Dr. Loomis referred to the case of the late Dr. Belden, who began to have cardiac insufficiency years before his death. He had told the speaker that for ten years past he had never taken less than forty drops, and sometimes as much as two hundred drops, of the tincture of digitalis every day; and, unless he kept himself under its influence, he was unable to attend to his work. Death finally resulted from rupture of an artery.

Dr. **Richard Van Santvoord** said that he had been much interested in the remarks which had been made about the importance of rest during the administration of digitalis. He had long been of the opinion that the beneficial effect of the drug was to be attributed to its power of improving the nutrition of the heart itself. Dr. Loomis had not expressed his views as to the reason for digitalis being dangerous when administered to patients who were not at rest. Digitalis, like other stimulants, could not be safely pushed beyond a certain limit, and it was reasonable to suppose that when even moderate exercise was indulged in, while under the influence of this stimulation, the heart, by reason of the combined effect of the increased demands made upon it, was urged dangerously near the limit of its power. Hence, also, when digitalis was given during rest, the extra demand upon the heart caused by exercise was excluded, and the beneficial effect of the drug attained without risk. He thought, in a general way, that we all overvalued the heart tonics in the treatment of valvular disease, and this was particularly true where our estimate of their value was based largely upon hospital experience, for we were apt to overlook the powerful beneficial effects produced by the improved hygienic surroundings and greater opportunities for rest and recuperation which such patients enjoyed.

Dr. **A. Brothers** commented upon the importance of digitalis in the cardiac affections of childhood. It had been said that a valvular lesion, if discovered at a sufficiently early period, could even be cured; but his experience had failed to confirm this view. On the contrary, he had known children to receive digitalis for several years without the slightest improvement in the murmur. He had found cases of chorea, epilepsy, and epistaxis, which had proved obstinate to treatment, which yielded readily to digitalis; and the good effect was to be explained by the equalization of the circulation. In a baby of six months, suffering from mitral regurgitation in a marked degree, together with an acute bronchitis, digitalis had wrought a wonderful change, the little patient being kept on one-minim doses of the tincture for four months.

Dr. **Parker Syms** asked for an explanation of the great tolerance for digitalis shown in cases of delirium tremens. Were the large doses—two to four drachms—advocated by Dr. Sandford Jones borne on account of the alcoholic condition, or because of the condition of the stomach?

Dr. **Le Fevre** replied that Brunton maintained that such enormous doses would undoubtedly prove dangerous if absorbed, but observations had shown that absorption did not occur.

Dr. **Brothers** said that while in the hospital he had made use of the Bellevue Hospital preparation of the tincture of digitalis in a series of alcoholic cases in the "cells," in which he had tried this method of treatment. He remembered that the drug had been well borne, and that its characteristic effect on the heart was absent; but the treatment had been discontinued because the patients did not improve.

Dr. **Powell** wished to know what preparation of digitalis was employed by Dr. Loomis, for he had found that the effect of digitalis upon the kidneys was very uncertain when the tincture was used, even when given in large doses. On the other hand, where it was desirable to produce diuresis without influencing the heart, the infusion was the preparation to be employed. He asked the question particularly because Dr. Loomis considered the effect of the drug upon the kidneys a reliable indication of its beneficial action.

Dr. **Loomis** replied that he administered the tincture whenever a simple tonic effect was desired, and the infusion when his object was to produce diuresis. In giving large doses of digitalis for heart insufficiency he always used the infusion. He thought that sufficiently large doses of the tincture would produce diuresis. As an example of the quantity of the drug that might be taken without causing death he referred to a bad case of puerperal eclampsia which he had seen in consultation and in which he advised the administration of the infusion of digitalis. This was in the evening, and about seven o'clock the next morning he was hastily summoned because the patient was thought to be dying. He found her in a very critical condition, with a very well marked digitalis pulse, and upon inquiry he learned that the attendant had directed an ounce of the English leaves to be put into a pint of water and steamed over the stove. This had been fed to the patient at intervals, and she had taken the whole quantity during the night. It was ascertained that the druggist had furnished a good quality of digitalis. The diuresis was wonderfully profuse; the patient came out of her coma and recovered entirely.

Dr. Houghton said that shortly after entering private practice he had been asked to assist a graduate from one of those schools where diplomas could be bought after a month's study. The patient was vomiting constantly and was almost in collapse. A diagnosis of carcinoma of the stomach was made, and it was advised to administer nutrient enemata every four hours, together with alcoholics and tincture of digitalis. By the orders of the medical attendant, the patient received during the next two days a drachm of tincture of digitalis in an enema every four hours, and the injections were all retained. The woman complained only of cold, clammy perspiration, and a terrible thumping of the heart, but the digitalis did not seem to have any serious effect, and she died two weeks later from the exhaustion caused by the carcinoma.

Dr. Van Santvoord remarked that he had known of a case of pneumonia under the care of a homœopathic brother where the tincture of digitalis had been administered in teaspoonful doses, and the patient had had no disagreeable effects from it.

Dr. Powell said that we should not forget that the quality of the tincture of digitalis varied greatly; and he did not believe there were half a dozen druggists in New York city who would furnish a good specimen of the tincture of digitalis.

Dr. Le Fevre, in closing the discussion, said that the paper had been intended to express the opinion that in cases of cardiac disease, where there was a lesion interfering with the mechanism of the heart or with the muscle itself, one might expect digitalis to bring about nutritive changes which would aid in restoring compensation; but he had not intended to advocate its use in every case of cardiac disease either in the adult or in the child, or simply for the nervous symptoms affecting the heart. It should only be given where the heart was failing and with a view of securing, outside of its stimulating action, the desired amount of hypertrophy.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN LARYNGOLOGY AND RHINOLOGY.

Meeting of April 22, 1890.

Dr. S. O. Vanderpoel in the Chair.

Translumination of the Larynx and of the Antrum of Highmore.—Dr. W. Freudenthal read a paper explanatory of this procedure. The subject, he said, had engaged the attention of laryngologists for the past year, and it was to be deplored that the founder of the method, Professor Voltolini, had died before its perfection. In describing the process, Dr. Freudenthal said that to get a view of the interior of the larynx the lamp was applied to the external surface of the neck, either at the pomum Adami or near the cricoid cartilage; the laryngoscopic mirror was passed into the dark pharynx, when a distinct view was readily obtained. The appearance was very different from that ordinarily seen, the whole larynx showing a reddish tint. With the lamp at the level of the incisura thyreoidea, the vocal bands and all parts above them appeared to be of a bright-red color, the epiglottis dark. With the lamp near the cricoid cartilage a very satisfactory view of the whole subglottic region down to the bifurcation of the trachea was obtained. What in ordinary illumination impressed one as a thickening or enlargement would in translumination appear as a dark object, which the rays of light had been unable to penetrate. For this reason the method offered great advantages in the defining of tumors, the dark outlines being clearly distinguished from the other parts brought into view. It was easy to be seen how in certain cases the diagnosis could be rendered comparatively certain by this method between a solid tumor and a cyst. The method was also very valuable in ascertaining the extent of ulcerative processes and other pathological conditions in the larynx, such as the difference between an œdematous vocal band and an infiltrated one. For the purpose of diagnosticating diseases of the antrum of Highmore and the nose, a small lamp was taken into the mouth, which caused illumination of the whole face. The nose could be thoroughly explored with this light, and if any growths were present they would be brought into view in the same manner as the intralaryngeal growths. In the normal condition the nasal floor was permeable to the rays of light; if this should, however, remain dark and the nasal cavity was clear, it would be reasonable to conclude that there must be a body in the antrum which cut off the rays; this might be either pus or a solid tumor. The presence of hypertrophied turbinated bodies did not seem to interfere with translumination. In several cases in which the hypertrophies were marked the speaker had been able to accomplish perfect illumination. The non-appearance of light, even after thoroughly removing all visible obstacles from the nose, was such an important symptom that by it an almost absolute diagnosis of empyema of the antrum could be made. In most of these cases there would be no difficulty in making a diagnosis at any time, but in a certain number the most experienced diagnosticians were sometimes in doubt. It was in this class that the translumination would be of permanent value. As to the technique of the examination, he explained that for the exploration of the antrum an absolutely dark room was necessary, but not so for the larynx.

To prevent breaking the lamp, as frequently happened, the use of the rheostat was advised. It was always well to see that the patient had removed any artificial tooth plate before examination, for this might lead to mistake in diagnosis if this precaution was not taken.

The speaker then gave a series of practical demonstrations of the working of the illuminating process which left no doubt as to its utility for covering many requirements in diagnosis.

Neurasthenia and Neuralgia from Traumatism of the Nasal Passages.—Dr. W. Franklin Chappell, in a paper on this subject, narrated in detail the histories of a series of cases in which a train of nervous symptoms, some of them of a pronounced and persistent type, had developed upon surgical traumatism of the nasal passages for the relief of deflected septa, hypertrophied bones, adventitious growths, and so forth. The symptoms which had resulted, some of them spontaneously, others insidiously, were complex and various. Loss of ability to continue vocations, pain in the occipital region extending down the spine, formication, creeping feelings in the arm, pain in the tibia, ankle, and knees, aphasia, cataleptic seizures, peripheral neuritis, neuralgias, neuromata, insomnia, and so forth, had all been noticed by the speaker, care having been taken to eliminate, as far as possible, the liability of error by the avoidance of leading questions to the patients, leaving them to detail their own symptoms. He thought that operations in the nasal passages should not be undertaken lightly or with the impression that if they did no good they would at least be harmless. Careful inquiry should be made into the patient's history. If this indicated neurotic taint, or the existence of nervous prostration, it would be better to discourage operative measures unless imperatively demanded.

Dr. A. H. Smith said that the cases which had been so admirably presented were separated by a wide line from the class of reflex neuroses arising from ordinary pathological states of the nasal passages, which had caused so much discussion both at these meetings and elsewhere. Still, the phenomena implied some positive changes of more or less pronounced character in the nerve structures, or in the nerve elements. In all the cases which had been detailed the patients appeared to have been of a neurotic habit. In such persons any slight disturbing cause was likely to bring about more or less permanent changes. Then the question of locality was to be considered, and it was reasonable to assume that operative traumatism produced in such close proximity to important nerve centers would be much more likely to be followed by serious consequences than if produced in the hand or foot. He had thought it possible that some of the symptoms immediately following these traumatisms might be attributable to vaso-motor changes, the shutting off of a portion of the blood to the contiguous tissues and to the brain. There was no doubt that these operations should not be done unless urgently called for, and never without every precaution against shock.

Dr. C. L. Dana thought it must be admitted that there was such a definite clinical fact as neurasthenia, and that it was not modified in its symptomatology by the cause, whether that was trauma or some other exciting or depressing influence. He thought neurologists had not quite got at the classification of neurasthenia. There were, however, four things in this condition which, in the speaker's experience, modified the clinical picture of neurasthenia, and he thought that these factors should have due prominence in diagnosis: they were age, sexual irritation, diathesis, and the question of a primary neurotic condition in the individual. The neurasthenia of adolescence was different in type from that developed in middle life. As to the influence of trauma in causing the neurasthenic symptoms, of course it was only possible to speculate; still, he thought that those who had seen a great deal of the condition were coming to believe that there was always a pre-existing disease of the vaso-motor mechanism. He did not know whether traumatisms upon other mucous membranes produced the same troubles as those upon the nose and pharynx. He was not prepared to attach too much importance to the question of the implied causation.

Dr. W. H. Thomson stated that his experience had been rather the reverse of that of the author of the paper. He cited a case in which a patient, who was reduced to the verge of self-destruction by mental depression and who had suffered from excruciating headaches, entirely recovered after it was pointed out to him that a malposition of the septum nasi resulting from an accident caused the whole trouble, and an operation had been submitted to. In this case the headache was not reflex, but had depended upon a congested condition of the ethmoidal plate. Reference to the vaso-motor system meant anything and everything; certainly nothing very definite. There was about these conditions and symptoms which they were discussing something very special and very serious. Their very persistence was sufficient to indicate that there existed some positive and real injury to which he would hesitate to apply the term asthenia. It looked more like some direct irritation.

Dr. Beverley Robinson had not frequently met with any of these neurotic or neurasthenic symptoms. He was glad, however, that the paper had been read, because he believed that a great number of injurious operations were performed, especially when they were done without due regard to and investigation of the patient's general condition. Such operations frequently left behind them new and serious neurasthenic phenomena.

Dr. J. E. Nichols referred to the instantaneous occurrence of the severe symptoms which had characterized one of the cases narrated by Dr. Chappell. Of this case he had personal knowledge, and stated that, though at first he had been disposed to assume the existence of some hysterical element, yet the patient's prompt statement of her symptoms, without suggestion, and her general condition subsequently, had led him to accept the symptoms as real. He thought that, as Dr. Dana had suggested, the climacteric period might be potent as a factor. The lady of whom he had spoken had just passed the menopause, and she might have had a condition of latent neurasthenia which was accentuated by the operative interference.

Dr. Chappell said that the young woman to whom he had given his manuscript for the purpose of getting a type-written copy had disappointed him, and at the eleventh hour inquiry had elicited the fact that when about half through with it she had become so nervously prostrated by the details of the contained histories of the effects of operations on the nose that she had been unable to continue and had gone home.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting of May 16, 1890.

Dr. George Armstrong in the Chair.

Subsequent History of a Case of Nephrectomy.—Dr. Shepherd reported the death of a woman from whom he had removed the left kidney in September, 1885, for calculous pyelitis. After the operation the remaining kidney had done good work, the amount of urine excreted daily being between forty-five and fifty ounces. Two years after the operation the patient had complained of pains in the region of the right kidney, and pus in small quantities had appeared in the urine. At that time he had suggested exploring the right kidney, as he felt sure there was a calculus, but the patient would have nothing done. A year ago she had appeared at the hospital and was admitted. She was at that time passing large quantities of pus in her urine, but she was in good condition and refused any operation. With rest in bed the pus had almost disappeared. She was not seen until a few weeks ago, when her husband had brought her to the hospital in a very weak and feeble condition; she had been confined some ten days previously. At this time she was only passing from four to ten ounces of urine daily. She had died after being two days in the hospital. At the autopsy the right kidney was found much enlarged and much disorganized by a large pus cavity which contained a small stone. The left ureter was obliterated and appeared as a round cord. No doubt this patient's life might have been still further extended had she submitted to a second operation two years ago. She had given birth to three children after the removal of the left kidney.

Foreign Body retained in the Nose for Twenty-five Years.—Dr. Major reported the case of an English woman recently arrived in Canada, who had applied at his clinic for diseases of the nose and throat at the Montreal General Hospital for relief from nasal obstruction. The patient had attributed the difficulty she experienced in breathing to a catarrhal condition, the result of climatic causes. On examination, the right nostril was seen to be occluded by swelling of the turbinated tissue, but when a probe was passed for exploratory purposes, a foreign body of large proportions was encountered.

Cocaine was applied, and, after some difficulty, a rhinolith was dislodged which was drawn through the nostril after some trouble. The body had measured 19 by 13 by 9 millimetres, and weighed, when removed, two grammes and a half. The patient, who gave her age as thirty-one years, stated that when six years old she had introduced a number of small sea-shells into the nostril. She had always believed that they had all been removed. She thought it quite likely that a shell would be found to be the nucleus of the mass. The woman's husband, who accompanied her, said he remembered perfectly the sea-shell episode and could of his own knowledge confirm his wife's statement. The rhinolith, intact, was produced, and, when it was crushed, fragments of a pearly nature were easily distinguished. It was an interesting fact that a foreign body could occupy a nasal chamber for twenty-five years without exciting suspicion and without giving rise to much annoyance. It was also curious that when examining the patient no offensive odor was detected and the lip was not excoriated, as was usual in such cases.

Subchordal Laryngeal Growth removed by the Endolaryngeal Method.—Dr. MAJOR reported the removal of this growth by Mackenzie's antero-posterior cutting forceps. The patient had given a previous history of subacute laryngitis. The operation had been rendered more difficult than the average by the irritable condition of the throat generally, but more especially from the situation of the tumor, which grew from below the right vocal cord, well forward, in its anterior third. A similar growth was removed from the right anterior faucial pillar in the same man. The microscopical report by Dr. Wyatt Johnson showed the case to be one of simple papilloma. The galvano-cautery was afterward applied to the seat of origin, which was thoroughly destroyed.

Complete Bilateral Abductor Laryngeal Paralysis.—Dr. MAJOR reported an interesting case of this form of laryngeal paralysis, which had followed cerebro-spinal meningitis. The patient, a lad of seventeen years, had been under observation for seven years and had been tracheotomized. Death was the result of displacement of the tube during sleep.

Pigmentation of the Skin in Graves's Disease.—Dr. R. L. MACDONNELL exhibited the photograph of a patient whom he had had under his care in the Montreal General Hospital, a girl, aged twenty-one, who for several years had suffered from palpitation on exertion. Six months previous to admission thyreoid enlargement had been noticed for the first time. Exophthalmia was not prominent. The remarkable feature of the case was the well-defined brown pigmentation on the upper and lower eyelids which had made its appearance during the last six months and seemed to have no tendency to spread. The natural complexion of the patient was fair and the pigmented skin had the appearance of a huge freckle. These patches had been noted in cases of Graves's disease, and universal bronzing had been recorded.

Urgent Dyspnœa in Aortic Aneurysm.—A paper on a case of aneurysm of the aorta, by Dr. MAJOR and Dr. MACDONNELL, was read. The patient, a man of thirty-five years of age, had been admitted into the medical wards of the Montreal General Hospital on the 11th of February in a condition of the most urgent dyspnœa. Death from asphyxia was imminent. Intubation of the larynx, which had been immediately done by Dr. Major, had given but partial relief. On the following day the condition of the patient had so far improved that a physical exploration of the chest became practicable. Weak breathing at the left pulmonary base was the only physical sign perceptible. There was loud stridor and at times a brassy cough. There had been slight attacks of dyspnœa on previous occasions, but never severe cough or pain in the chest. A history of syphilis was probable. He had been a storeman in a warehouse and had done a great deal of heavy lifting. The dyspnœa had returned with great intensity on several occasions during the time that he remained in the hospital. Death from sudden syncope had occurred on the sixth day. The autopsy had revealed the fact that an aneurysm as large as a tennis ball occupied the posterior part of the transverse arch of the aorta lying behind the left bronchus and compressing it. Rupture had taken place into the posterior mediastinum, which was distended with blood which had traveled along the œsophagus and torn through its walls just above the cardiac orifice, through which a quantity of blood had passed, completely filling the stomach and six feet of the small intestines. There was hæmorrhagic infarction of the fibers of the pneumogastric nerve, especially of its recurrent laryngeal branch. There were also multiple cicatrices of both lungs, the remains of spots of embolism, and a recent hæmorrhagic infarct in the left lung.

Dr. MACDONNELL stated that as soon as there was time to take in fully the clinical bearings of the case, the diagnosis of aneurysm had confidently been made. The age, occupation, the condition of the larynx, the cough, the exclusion of air from the left lung, admitted of no other explanation. Two forms of dyspnœa were probably present—one continuous, resulting from the gradually increasing pressure of the tumor upon the trachea and the left lung, the other sudden and paroxysmal, resulting from irritation of the vagus and its branches. That spasm of the larynx was not the only cause of dyspnœa was shown by the fact that the introduction of a tube did not entirely give relief. An aneurysm of slow growth had formed upon the aorta at a point beyond the margin of the great vessels. Therefore the radials were unaffected and the pulses remained of equal size. The tumor pressed upon the left bronchus from behind. The fact of this pressure coming from behind and not from above accounted for the absence of tracheal plugging.

The general condition up to the time of admission had been that commonly seen in patients with small aneurysms of the transverse arch. There was some dyspnœa upon exertion, but there was nothing to interfere with the duties of active life. On the day of admission some violent change had occurred in the throat and urgent laryngeal dyspnœa had been the result. There had probably been a rupture of the aneurysm and a sudden gush into the post-mediastinum, which, by pressure upon the vagus and its recurrent branch and by the hæmorrhagic infiltration of their fibers, set up the laryngeal spasm. This condition had lasted probably during all the time of the patient's residence in hospital, when a second hæmorrhage occurred which caused the fatal syncope.

Dr. MAJOR briefly referred to the laryngeal condition and to a few points of interest in the diagnosis. At the laryngoscopic examination shortly after the patient's admission to the hospital he had observed abductor paralysis of the left side with intermittent spasmodic movements of the right vocal cord. The larynx was situated deeply in the neck and was stationary. There was no suprasternal depression and no retraction of the diaphragm. The chest muscles were not actively engaged, but the abdominal walls were undergoing violent contraction, particularly on expiration. The voice and cough were of an asthenic nature. Vagus pressure was diagnosticated, and subsequently confirmed post mortem. Tracheotomy was not entertained, as intubation afforded little or no relief, and the other laryngeal signs did not particularly refer to laryngeal obstruction.

Dr. MILLS stated that with a large aneurysm it was possible to understand that the blood might circulate imperfectly, a considerable portion of the elastic force of the aortic arch being lost, hence congestions, and, as a consequence, dyspnœa, owing to imperfect aeration of the blood. Experimental section of the vagi had been shown by several observers to lead to cardiac degenerations. Members of the association would remember a paper he had read jointly with Dr. Workman, in which the investigations of Fantoni and Lustig more especially had been reported, with some reflections on the same in the light of his own researches. That the pressure of an aneurysm might lead to both spasm and paralysis of the laryngeal muscles was clear enough. Did it also lead to degeneration of the vagus fibers and their corresponding cerebral cells with widespread effects in the organs to which the nerve is distributed? This question required for its solution careful microscopic examinations. In addition to the cardiac effects, it had now been rendered reasonably certain that the pulmonitis following experimental sections of both vagi nerves was due to purely trophic effects—*i. e.*. the nutrition became disordered, and, as he understood inflammation, it was simply deranged nutrition, a remark which applied to all diseases, though the term metabolism appeared more suitable than nutrition.

The fact that the adductors and abductors of the larynx became affected and restored in a different order was but another example of the functional individuality of muscles and nerve fibers, even when the latter ran in the same nerve stem for a greater or smaller portion of their course.

Book Notices.

A Hand-book of Pathological Anatomy and Histology. With an Introductory Section on Post-mortem Examinations and the Methods of preserving and examining Diseased Tissues. By Francis Delafield, M. D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, New York, and T. Mitchell Prudden, M. D., Director of the Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York. Third Edition. Illustrated by Two Hundred and Twenty-four Wood Engravings printed in Black and Colors. New York: William Wood & Co., 1889. Pp. xv–609.

The third edition of this text-book, already well known to the medical profession of this country, appears in a considerably improved form. The illustrations have been increased in number, and many of them, especially those dealing with bacteria, have been printed in colors. The text dealing with bacteriological questions has been changed so as to express the conclusions arrived at in recent investigations. It is to be regretted that, in view of the immense importance of these questions, more space has not been allotted to them.

Some new matter has been introduced, although this is not large in amount, and numerous changes have been made in the old text. We note with much approval that the parenchymatous degenerations for the most part have been placed under the head of degeneration and not under that of inflammation, as was formerly the case.

The book is an excellent one, one of the very best printed in English, and we would heartily commend it to students and practitioners of medicine.

Diseases of the Eye. A Practical Treatise for Students of Ophthalmology. By George A. Berry, M. B., F. R. C. S. Ed., Ophthalmic Surgeon, Edinburgh Royal Infirmary, etc. With Colored Illustrations from Original Drawings. Philadelphia: Lea Brothers & Co., 1889. Pp. xvii–670. [Price, $7.50.]

This is an excellent practical work not only for students but for practitioners of ophthalmology. The author tells us in his preface that he has given little space to pathological anatomy, because he believes that any exhaustive discussion of the pathological anatomy of eye diseases tends to divert attention from their clinical aspect. We are inclined to doubt the correctness of this position and to wish that ophthalmologists were more devoted to the study of the pathology of the diseases which come under their notice, and that more space were accorded to it in works upon diseases of the eye. But the book now under consideration is written from a purely clinical standpoint and is written well. Nearly two thirds of the book is devoted to diseases, the remainder to refraction, the ocular muscles, and operations.

The life-like portraits of various conditions of the eye which are presented by the admirably executed colored illustrations are of infinite value for the recognition of disease. The most graphic word picture assisted by a fine engraving fails to convey to the mind so accurate a conception of the appearance produced as these masterly representations.

Altogether the work is a good one, which we take pleasure in recommending to all practitioners who wish to become acquainted with this subject.

Emergency Notes. What to do in Accidents and Sudden Illness until the Doctor comes. By Glentworth R. Butler, A. M., M. D, etc. With Eighteen Original Illustrations. New York: Funk and Wagnalls, 1889. Pp. 9 to 102.

This is the latest addition to the multitude of small books purporting to instruct the laity regarding medical and surgical emergencies. It is written in a pleasant style and contains the usual amount of information.

A Manual of Obstetrics. By A. F. A. King, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc. With One Hundred and Forty-one Illustrations. Fourth Edition. Philadelphia: Lea Brothers & Co., 1889. Pp. xxiv–25 to 431. [Price, $2.50.]

The author frankly states that the purpose of this book is to present in an easily intelligible form the groundwork of obstetric science, based upon the researches of recent investigators—such as Leishman, Playfair, and Lusk. There are one hundred and forty-one excellent illustrations, a good index, and a synopsis of chapters. The work is largely in paragraph form with introductory titles, and is a most time-saving reference manual—one that recommends itself to the painstaking student and busy practitioner.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Diseases of the Nose and its Accessory Cavities. By Greville Macdonald, M. D. (Lond.), Physician to the Hospital for Diseases of the Throat. London and New York: Macmillan & Co., 1890. Pp. xvi–362. [Price, $3.]

Flushing and Blushing: their Pathology and Treatment. By Harry Campbell, M. D., B. S. (Lond.), Member of the Royal College of Physicians, London, etc. London: H. K. Lewis, 1890. Pp. x–3 to 270.

A Manual of Anatomy for Senior Students. By Edmund Owen, M. B., F. R. C. S., Surgeon to St. Mary's Hospital, London, etc. With Numerous Illustrations. London and New York: Longmans, Green, & Co., 1890. Pp. viii–526. [Price, $3.50.]

Address on State Medicine. By Alfred L. Carroll, M. D., of New York. (Delivered at the Forty-first Annual Meeting of the American Medical Association.) [Reprinted from the Journal of the American Medical Association.]

A Study of Cerebral Palsies of Early Life, based upon an Analysis of One Hundred and Forty Cases. By B. Sachs, M. D., and F. Peterson, M. D. [Reprinted from the Journal of Nervous and Mental Disease.]

A Treatise on Neuralgia. By E. P. Hurd, M. D., Newburyport, Mass. Detroit: George S. Davis, 1890. Pp. 153. [The Physician's Leisure Library.]

Twenty Consecutive Cases of Abdominal Section. By L. S. McMurtry, A. M., M. D., of Louisville, Ky. [Reprinted from the Transactions of the Southern Surgical and Gynæcological Association.]

Salpingo-oophorectomy and its Results. By H. J. Boldt, M. D., New York. [Reprinted from the Medical Record.]

The Treatment of Posterior Displacements of the Uterus. By H. J. Boldt, M. D., New York. [Reprinted from the American Journal of Obstetrics and Diseases of Women and Children.]

Spinal Irritation and some Points in the Diagnosis of Affections that may be mistaken for it. By J. T. Eskridge, M. D., Denver, Col. [Reprinted from the Alienist and Neurologist.]

Abscess of the Brain—Operation—Death on the Ninth Day. By J. T. Eskridge, M. D. [Reprinted from the Journal of Nervous and Mental Disease.]

The Arrest and Partial Resorption of Immature Cataract, with Restoration of Reading-Power. By Richard Kalish, A. M., M. D. [Reprinted from the Medical Record.]

In Memoriam, David Clark Cocks, M. D. By Malcolm McLean M. D.

Twelfth Annual Report of the Connecticut State Board of Health for the Year ending November 30, 1889, with the Registration Report for 1888, relating to Births, Marriages, Deaths, and Divorces.

Proceedings of the Academy of Natural Sciences of Philadelphia. Part I, January–March, 1890.

Furunkulose bei Diabetes Insipidus. Von J. Lowinsky, Cand. med. [Sonder-Abdruck aus dem Centralblatt für klinische Medicin.]

Terminologia Medica Polyglotta. A Concise International Dictionary of Medical Terms. Compiled by Theodore Maxwell, M. D. Camb., B. Sc. Lond., F. R. C. S. Edin. With the Assistance of Dr. E. de La Harpe, Lausanne; Dr. Rafael Hernandez y Barrios, Vallecas; E. M. Holmes, F. L. S., London; Dr. Kamocki, Warsaw; Dr. J. Mommsen, Kaiserslautern; Dr. F. Reiche, London; Dr. A. Rubino, Naples; J. Bland Sutton, F. R. C. S., London; and Dr. St. Zaleski, University of Tomsk. London: J. & A. Churchill. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xiv–459.

Reports on the Progress of Medicine.

DISEASES OF THE SKIN.

By GEORGE THOMAS JACKSON, M. D.

Depilatory Powders.—Dr. Clasen (Monatshft. f. prakt. Dermat., 1889, ix, 541) answers an inquirer in regard to depilatory powders. As to the sulphohydrate of sodium, he says that, used as a paste, one part to eight of water, and allowed to remain on for a very short time, it acts well. But it deteriorates very rapidly and is dangerous to give to a patient, as it is quite capable of producing scars. The sulphide of barium is a safer powder for the purpose. It may be used by mixing fifty parts of it with twenty-five parts each of starch and oxide of zinc. This is mixed with water so as to form a soft paste and spread upon the face. After ten minutes it is scraped off and leaves a smooth skin.

Some Uses of the Paquelin Cautery in Dermatological Practice of a rather Unusual Sort are spoken of by Unna (Monatshft. f. p. Derm., 1889, No. 9, p. 431). In chronic, thickened eczema of the anus and genital regions that resists all other methods of treatment and itches in spite of all our efforts, if the patient is anæsthetized and the eczematous places burned to the second degree, and then the wound dressed properly, recovery will result in a couple of weeks in not a few cases. Likewise in leucoplakia oris, touching all the diseased parts with the Paquelin cautery, and burning out the rhagades, with the after-treatment by means of a mouth wash of four-per-cent. of borax in equal parts of distilled water and peppermint water, will speedily effect a cure. The wash must be used for half an hour at a time with two-hour intervals. Careful burning of angeioma oris, beginning at the periphery, is a procedure that is safer and more efficacious than any other.

Pigment Formation in the Negro's Skin.—Dr. Morison, of Baltimore (Monatshft. f. p. Dermat., 1889, ix, 485), mentions the opinion of a number of leading histologists that the negro is born quite white and acquires his color subsequent to birth. He then refutes it by the testimony of several physicians of Baltimore, engaged more or less in midwifery practice among the negroes, and by microscopical examination of sections of skin taken from the fœtal negro's skin. The medical testimony shows that the negro baby is born black. Microscopically it has been demonstrated that there is pigment in the negro's skin, not only at birth, but for a month at least before birth.

The Ætiology and Treatment of Acne is the theme upon which Dr. Barthélemy, of Paris, spoke during the session of the International Congress of Dermatology and Syphilis recently held in that city (Monatshft. f. p. Derm., 1889, No. 9, p. 406). He offers the following six theses: 1. The presence of acne on the face should always suggest to the physician that there is something wrong with the stomach, either dyspepsia or dilatation of the organ, which must be overcome before the acne can be cured. 2. The dyspepsia prepares the soil for the growth of the seed that produces the acne, such seed always requiring a seborrhœal soil for its growth. The seborrhœa is caused by the elimination through the glands of the skin of the products of imperfect digestion. 3. The acne itself is due to the deposit upon the seborrhœal skin of germs contained in the air. 4. Acne is contagious and self-inoculable, and therefore probably parasitic. 5. If a person once has acne it would seem that the acne germ continues constantly upon the skin, and, though it may remain latent for a time, it is apt at any moment to become active. 6. The treatment should consist in surgical procedures for the individual lesions, and of antisepsis of the skin, stomach, and intestines. In dilatation of the stomach he would find the predisposing cause of acne. The pure form of acne is a miliary papule, which is slightly raised above the level of the skin and but slightly colored. After lasting three to six weeks the papules dry up and disappear and leave no trace of themselves. But the acne lesion is subject to invasion by various cocci, and then the picture is changed to what we usually see in acne.

The Treatment of Acne is the theme of Mr. Knapp in the Provincial Medical Journal for December 2, 1889. He believes that the disease is mostly due to sexual hyperæmia, and to reduce this he recommends vigorous exercise, a daily cold bath in the morning, a diet containing but little animal food and no cooked fats or pastries, and a good deal of whole-meal bread and porridge if there is constipation. Inhalations of oxygen or drinking oxygen-water is beneficial. Peroxide of hydrogen in doses of fifteen minims to a drachm is commended. Chlorate of potassium, five grains, with resin of guaiac, made into a lozenge, renders good service. A small amount of beer or light wines is to be prescribed. Local treatment is of slight benefit. Sulphur is most to be relied on.

Seborrhœal Affections.—Under this title Dr. Brooke, of Manchester, subjects Unna's "seborrhœal eczema" to a critical study (Monatshft. f. p. Dermat., 1889, ix, 553). His attention having been directed to seborrhœal diseases of the skin, he has been surprised at the frequency of their occurrence. He does not accept the designation of eczema seborrhoicum except in so far as it may be used to indicate a seborrhœa to which an eczema has joined itself. He objects to the use of the term as Unna applies it to those cases of non-inflammatory scaling of the skin, or to those of seborrhœa corporis occurring either as scaly patches or as psoriasis-like rings and segments of circles. Most cases of seborrhœa exist, it may be for years, without infiltration of the skin or any sort of acute symptoms excepting a passing hyperæmia. Many cases spread slowly without any tendency to vesicular formation or itching, even though there may be a certain amount of dermatitis. On the other hand, to a very small amount of seborrhœa an intense eczema may be added, whose extent and degree stand in no proper relation to the amount of the seborrhœa. The author believes that seborrhœa is of purely local origin, and that the primary cause is a parasite, which is yet to be found. He erects his theory of the cause of seborrhœa in rings by piling one parasite upon another—that is, he supposes that to the parasite of ordinary seborrhœa another more "aggressive microorganism" is added. [The whole article is well worth reading, as it gives a full account of the various forms in which seborrhœa may present itself.]

Marginate Desquamative Eczema of the Tongue is the name given by Besnier (Jour. de méd., 1889, lx, 602) to an affection of the organ in which it is covered by a whitish coat, marking out the papillæ more prominently than usual. At many places at the edges or upon the upper face of the tongue the papillary plane is broken by rosy-red spaces, at the center of which some papillæ, from which the white coat has been removed, emerge, and its edge is sharply defined by being somewhat raised and of a more distinct red. The veins on the lower side of the tongue are prominent. Besnier regards the disease as analogous to eczema seborrhoicum of the body, which is often present at the same time upon the scalp or trunk. The part is somewhat painful to the touch. The treatment is by attention to the general condition of the patient, together with very frequently repeated washing out of the mouth with a feebly alkaline water, and the application of a five-per-cent. ointment of boric acid in vaseline.

Accidents arising from the Suppression of Eczematous Eruptions.—Dr. Brooke, of Manchester, believes that dermatologists of the present day make a mistake in ridiculing the possibility of doing harm by curing an eruption upon the skin (Med. Chron., December, 1889). Instances in which internal maladies grow better and worse, according to an eczema appearing or disappearing, are few, but not so very rare. In most cases it is the lungs that are affected, either a bronchitis or an asthma developing. A number of cases are given occurring in the practice of various physicians. The action is metastatic, depending upon an idiosyncrasy of the patient.

Concerning Lichens.—Whenever Kaposi writes it is worth while for us to read. He now (Archiv f. Derm. u. Syph., 1889, xxi, 743) gives his views concerning lichens, and tells us that there are only two diseases worthy to be called by this name—namely, lichen ruber and lichen scrofulosorum. He regards lichen planus as only a form of lichen ruber, and affirms that he was the first one to use the term lichen ruber acuminatus as applied to the disease lichen ruber that Hebra first described, and to declare that lichen planus was identical with lichen ruber. Of the two varieties, the acuminate is by far the rarest. The pityriasis rubra pilaris of the French, and especially of Besnier, has nothing whatever to do with the pityriasis rubra of Hebra, but is identical with lichen ruber acuminatus, both clinically and anatomically. As to the difference in mortality, he would say that Hebra's prognosis was now too grave, as under arsenic some of the patients with lichen ruber recovered. So long as the disease is not universal and the papules are still distinct, the period of marasmus and danger to life is not near. While the diagnosis of lichen ruber from keratosis follicularis is easy, there is often difficulty in distinguishing it from certain forms of keratosis, such as the congenital ichthyosis of the trunk and extremities, or of the palms and soles; and the acquired keratosis which develops with grouped papules on the dorsal phalanges, and callosities on the palms and soles. As to the identity of lichen planus with lichen ruber acuminatus, he again affirms that he has seen the two forms present at the same time upon the same body, that under arsenic the acuminate lesion will change into the plane lesion, and that they are identical in histology, course, and action under treatment. Lichen scrofulosorum has nothing in common with lichen ruber. The papules here are due to an inflammatory cell infiltration about the periglandular blood-vessels and those of the circumfollicular papillæ, producing a heaping up and deficient steatization of the epithelium of the sebaceous glands, as a further consequence of which acne cachecticorum occurs. The papules are seated by preference on the trunk and abdomen, in groups and conglomerations. They are flat, indolent, and pale under pressure, and have an epidermic scale or a pustule in the middle. When they disappear they leave either no trace or a cicatricial dimple. The patches may become serpiginous. The patients show other signs of scrofula, and recover under the use of cod-liver oil.

Erythema Nodosum due to Malaria.—Dr. Moncorvo, of Rio de Janeiro, reports (Rev. mens. des mal. de l'enfance, December, 1889) two cases of erythema nodosum occurring with acute malaria and yielding to quinine. Both cases were in children, and in one the eruption occurred upon the face. Most of the cases of this disease in children have occurred between the second and fifth year, and in girls. The eruption presents the usual characteristics of erythema, excepting that the lesions are rather of the size of tubercles than of nodes. The diagnosis is made by the occurrence of one or more attacks of chills and fever, by the eruption getting better and worse with the course of the malarial disease, by the absence of any other state of the constitution known to accompany the outbreak of the disease, and by its prompt disappearance under quinine.

A Remarkable Case of Pemphigus is reported by Mosler, of Greifswald (Deutsch. med. Wochschrft., 1890, No. 1), in which the disease apparently began in the mouth. The blebs appeared in the mouth and pharynx some three years before the integument was invaded. The disease proved fatal.

Zoster as an Epidemic.—In the Med.-chir. Ctrlbl. for Nov. 22, 1889, Kaposi concludes a study of zoster as an epidemic. He believes it to be an infectious disease, because it is prone to occur in little groups of cases specially at certain seasons of the year, the spring and fall—seasons that are specially favorable to the development of germs; because the fact that it occurs, as a rule, but once in an individual is the same as obtains in other infectious diseases; and because of its analogy to other infectious diseases. As they appear in epidemics of varying intensity, so does zoster. In some epidemics nearly all the cases are abortive. It is impossible to explain why, if the disease is due to a systemic poison, it should declare itself as so localized a disease. But we know that zoster does occur as the result of carbonic-acid gas and of arsenical poisoning.

In the Lyon médical for Dec. 1, 1889, Gauthier, of Charolles, takes up the same theme, and reports a series of cases occurring epidemically. With true French instinct he seeks out a diathetic substratum for the disease, and finds that three quarters of his cases are arthritic. His theory of the disease is that an unknown germ, with a selective affinity for a spinal ganglion, gains entrance to the system and, in an arthritic subject who already is predisposed to peripheral neuritis, sets up that disease called zoster.

J. G. Blake, of Birmingham, reports (Birmingham Med. Rev., December, 1889) a case of zoster occurring along the leg, ankle, and dorsal and plantar surfaces of the foot—a very unusual location for this disease. At the time there was "an epidemic of zoster in Birmingham." The symptoms complained of were those of sciatica.

Herpes Menstrualis is the term given by Dr. Bergh, of Copenhagen (Monatshft. f. p. Derm., 1890, x, 1), to that form of herpes to which the name of herpes progenitalis is usually applied. He is surprised at the very slight mention the gynæcologists make of this disease, to say nothing of the dermatologists. In the author's hospital practice it was found in two and six tenths per cent. of all the prostitutes. Its usual seat is the vulva; it is commonly unilateral, though it may be bilateral or even median. The labia majora are most often affected (eighty per cent.); then the labia minora, the ano-genital region, the clitoris, and the vestibule. The last two parts are very seldom affected. It has been met with upon the cervix uteri and the walls of the vagina. Herpes facialis may appear coincidently. In prostitutes the herpetic lesion affords a good site for syphilitic infection. It is undoubtedly of neuropathic nature, depending upon the local irritation of a nerve mounting up to the origin of the nerve, and being reflected along the trophic and vaso-motor nerves to find expression as a herpetic outbreak. It is the most frequent "menstrual eruption." According to the author's experience, more than seventy-three per cent. of all the cases of genital herpes occur in menstruating women, and it is very prone to return with every menstrual period. But, while menstruation is the commonest cause of herpes, it may come after every cohabitation, or follow manustupration or some operation upon the genitals. It is therefore not to be regarded as a disease of professional prostitutes, but as a forerunner or accompaniment of menstruation, which is apparently more frequently met with in sensual and neurasthenic women than in others.

Mycosis Fungoides.—Dr. Ledermann, of Breslau, has made a new study of this disease (Archiv f. Derm. und Syph., 1889, xxi, 683), hoping to determine to which class of tumors it belongs. As neither the lymphatics nor the lymphatic glands were implicated, nor was there any sign of leucocytosis in the blood, he throws out the possibility of their being lymphadenomas. He rejects the possibility of sarcoma on account of the clinical history and histological characteristics of the growths. He finally concludes that they are chronic inflammatory processes of parasitic origin, like leprosy, rhinoscleroma, and other similar diseases, even though thus far he has been unable to find the parasite. Their appearance in circles and their serpiginous arrangement point to this conclusion.

The Treatment of Ringworm of the Scalp.—Unna, of Hamburg (Monatshft. f. p. Dermat., 1889, ix, 543), is surprised at the slowness with which the English and French physicians effect a cure of their ringworm cases. To him the matter is very simple, and he scarcely ever fails to cure a case within five weeks. This is truly good news, and this is the way that the cure is done: *All* the hair is cut off short from the head. Then a stripe of zinc-glue (*Zinkleim*) is drawn along the line of the hair all around the head. All inside of this boundary-line is painted with a five- to ten-per-cent. chrysarobin ointment, or one composed of chrysarobin, twenty-five grains; salicylic acid, ten grains; ichthyol, twenty-five grains; and simple ointment, one ounce. An impervious cap of gutta-percha tissue is fitted over the head so as to come down to the middle of the band of glue, its edge covered in with the *Zinkleim*, and a mull bandage. Over all comes a close-fitting flannel cap which is to be kept in place by bands sewed on to it. The bandage and dressing are to be changed every twenty-four hours. This method of dressing prevents the chrysarobin from getting into the eyes, and absolutely takes away all danger of spreading contagion, so that the child can go to school. After three days the chrysarobin is washed off and a five-per-cent. ichthyol or sulphur ointment substituted for it. At the end of a week the whole head is to be oiled and washed with soap and water. The process is to be repeated every week for three or four weeks. Before the treatment is begun, and at the commencement of each new course, a number of hairs are to be pulled and cultivated according to bacteriological methods in order to show the progress of the case. Week by week the spore formation will be seen to be lessened to the final cure.

The Treatment of Ringworm.—Hydronaphthol is brought forward by Dr. Dockrell, of London, as a specific in ringworm (Lancet, 1889, ii, 1110). He says that it has been proved by experiment to be more active than bichloride of mercury as a parasiticide, and, as it is at the same time non-poisonous and non-irritant, it is an ideal remedy for ringworm. He uses the hydronaphthol plaster of ten to twenty per cent. strength, as that serves at once to limit the spread of the disease and causes penetration of the remedy. His method is to shave the head, and wash it with a five-per-cent. hydronaphthol soap and very hot water; then dry the scalp and apply the ten-per-cent. plaster in narrow strips overlapping each other at the edges and going beyond the diseased area. Outside of all he applies a ten-per-cent. melted hydronaphthol jelly so as to shut out the oxygen. At the end of four days he removes the plaster and repeats the previous processes, using a twenty-per-cent. plaster for one week. Then he repeats the processes and applies a ten-per-cent. plaster for ten days, when the disease will be found cured. During the treatment he applies a five-per-cent. hydronaphthol ointment to the unaffected parts.

Miscellany.

The Arrogance of Quackery.—The Western Druggist for March 15th says that "the audacity of the quack under the quasi-protection of a free government" is a political force in many parts of the United States. As applied to the State of Illinois, it is said to have forced the retirement of Dr. Rauch from the State Board of Health, through the demands made upon the Legislature of that State by the venal rural press, which subsists on quack advertisements. The quack influence dominates the law-givers and threatens to nullify the work of the health authorities for the protection of the public. For ten years Dr. Rauch has been a thorn in the side of the fraudulent diploma mills, of the advertising nostrum makers, of the traveling charlatans, and, finally, of the quack-fed newspapers, and now they have united in one supreme effort to drive him out of official position. He has waged unrelenting warfare with them; but he was never able to crush them. And now they seem to have grown stronger than he.

In Oregon the newspapers, or some of them, have raised a clamor against the State Examining Board because of its refusing a license to an advertising quack of the old Buchanan stamp, and the latter has been induced to return to the State and measure swords with the State board. If he succeeds in his contention, he will be enabled to continue to practice at Portland, and that, the papers rejoice to say, will be equivalent to $50,000 annually expended in their advertising columns. This, from their stand-point, is worthy of an effort. But these papers never stop to inquire whence these dollars must ultimately come—namely, from the pockets of the suffering public—nor how much of malpractice and suffering and damage must incidentally be incurred in order that the quack may get the means to advertise thus lavishly. The audacity of quacks is also illustrated by a recently reported trial at Pittsburgh. The defendant, one of the "no-cure-no-pay" species, had, it is charged, caused the death of a man, whose widow brought suit for damages. He entered the plea that he could not be held, for he was "no doctor." The court rightfully resented this monstrous plea and committed the case to the jury to pass upon the facts.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

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